TO STUDY THE CLINICAL AND ETIOLOGICAL ASPECTS OF VULVOVAGINITIS

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Submitted By

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Dedicated

to

my family

&

respected

teachers

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Dr. Janvi Singla

LIST OF ABBREVIATIONS

1.	BYLC	Budding yeast like cells
2.	VVC	Vulvovaginal Candidiasis
3.	BV	Bacterial Vaginosis
4.	TV	Trichomonas vaginalis
5.	OCP’s	Oral contraceptive pills
6.	IUCD	Intrauterine contraceptive device
7.	CDC	Centres for disease control and prevention
8.	CBNAAT	Cartridge based Nucleic acid amplification tests
9.	NAAT’s	Nucleic acid amplification tests
10.	CT/NG	Chlamydia trachomatis/Neisseria gonorrhoeae
11.	No.	Number
12.	Sp.	Species
13.	Nulli	Nulliparous
14.	Primi	Primiparous
15.	Multi	Multiparous
16.	%	Percentage
17.	P	Pearson's Coefficient

ABSTRACT

Introduction: Vulvovaginitis is the inflammation and infection of vulva and vagina, commonly presenting with itching, vaginal discharge, and burning. It may account for more than 30% of cases in health care clinics. Bacterial vaginosis, vulvovaginal candidiasis and trichomonal vaginitis are the most common vaginal infections. Accurate assessment of risk factors and diagnosing vulvovaginitis are essential to initiate effective management and thereby alleviating complications.

Aim of Study: To study the clinical and etiological aspects of vulvovaginitis.

Materials & Methods: This was a tertiary hospital based prospective cross-sectional study conducted on 250 women presenting with vulvovaginitis in the Department of Obstetrics and Gynaecology, DMC&H, Ludhiana from January 2023 till August 2023. All patients presenting with one or more symptoms of vulvovaginitis were selected. Detailed history was taken; Demographic variables and risk factors were assessed. Clinical examination, microscopy, culture techniques and molecular assays were used for the diagnosis. The data was statistically analyzed to study the clinical and etiological aspects of vulvovaginitis.

Results: Vulvovaginitis was commonly seen in married, multiparous women of reproductive age group, mostly in lower class strata. Common risk factors seen were diabetes, douching, sanitary napkin reuse, cases with multiple sexual partners, and OCP users. Most common characteristics of vaginal discharge seen was greyish white, thin, scanty and associated with malodor. The most common cause leading to vulvovaginitis was bacterial vaginosis followed by vulvovaginal candidiasis and trichomoniasis.

Conclusion: The reproductive age group was more susceptible. Risk factors such as diabetes, multiple sexual partners, douching, and sanitary napkin reuse may predispose to vulvovaginitis. Bacterial vaginosis was the leading cause of vulvovaginitis (43.2%). Molecular tools may aid in the diagnosis of vulvovaginitis with unknown etiology. Timely prevention and diagnosis can avert complications and enable the early initiation of treatment.

Keywords: Vulvovaginitis, Bacterial vaginosis, Vulvovaginal candidiasis, Trichomoniasis

TABLE OF CONTENTS

S. NO.	TOPIC	PAGES
I	INTRODUCTION	1-2
II	AIMS AND OBJECTIVES	3
III	REVIEW OF LITERATURE	4-13
IV	MATERIALS AND METHODS	14-18
V	OBSERVATIONS AND RESULTS	19-81
VI	DISCUSSION	82-92
VII	SUMMARY AND CONCLUSIONS	93-94
VIII	BIBLIOGRAPHY	95-103
	APPENDICES – I - PROFORMA - ANNEXURE - MASTER CHART	
	APPENDICES – II - APPROVAL LETTER OF THESIS PLAN - THESIS PLAN	

LIST OF TABLES

Table No.	Title	Page No.
1.	Causes of vaginal discharge	5
2.	Amsel's Criteria	6
3.	Scoring system for gram-stained vaginal smears	7
4.	Nugent's scoring	8
5.	Classification of vulvovaginal candidiasis	10
6.	Distribution of women under study according to Age group	20
7.	Distribution of women under study according to Marital status	21
8.	Distribution of women under study according to Parity	22
9.	Distribution of women under study according to Pregnancy	23
10.	Distribution of women under study according to socio-economic status	24
11.	Distribution of women under study according to Douching	25
12.	Distribution of women under study according to Sanitary napkin reuse	26
13.	Distribution of women under study according to Contraception	27
14.	Distribution of women under study according to Diabetes	28
15.	Distribution of women under study according to number of sexual partners	29
16.	Distribution of women under study according to characteristics of vaginal discharge and symptoms	31

17.	Distribution of women under study according to local examination	34
18.	Distribution of women under study according to per speculum examination	35
19.	Distribution of women under study according to vaginal pH	36
20.	Distribution of women under study according to Vaginal culture	37
21.	Distribution of women under study according to wet mount	38
22.	Distribution of women under study according to Gram Stain	39
23.	Distribution of women under study according to CBNAAT:CT/NG	40
24.	Distribution of women under study according to diagnosis	41
25.	Association of causes of Vulvovaginitis with age group	42
26.	Association of causes of Vulvovaginitis with marital status	45
27.	Association of causes of Vulvovaginitis with parity	47
28.	Association of causes of Vulvovaginitis with socio-economic status	49
29.	Association of causes of Vulvovaginitis with pregnancy	52
30.	Association of causes of Vulvovaginitis with contraception	54
31.	Association of causes of Vulvovaginitis with douching	57

32.	Association of causes of Vulvovaginitis with sanitary napkin reuse	59
33.	Association of causes of Vulvovaginitis with diabetes	61
34.	Association of causes of Vulvovaginitis with number of sexual partners	63
35.	Association of causes of Vulvovaginitis with the colour of discharge	65
36.	Association of causes of Vulvovaginitis with consistency of discharge	67
37.	Association of causes of Vulvovaginitis with the amount of discharge	69
38.	Association of causes of Vulvovaginitis with vulval itching	71
39.	Association of causes of Vulvovaginitis with Malodor	73
40.	Association of causes of Vulvovaginitis with local examination	75
41.	Association of causes of Vulvovaginitis with per speculum	77
42.	Association of causes of Vulvovaginitis with vaginal pH	80

LIST OF PICTURES

Pic. No.	Title	Page No.
1.	Wet Mount demonstrating clue cells in BV	7
2.	Budding yeast like cells with pseudo hyphae on microscopy	9
3.	Automated real time PCR system	17
4.	CT/NG chip-based real-time PCR test kit	17

LIST OF FIGURES

Fig. No.	Title	Page No.
1.	Distribution of women under study according to Age group	20
2.	Distribution of women under study according to Marital status	21
3.	Distribution of women under study according to Parity	22
4.	Distribution of women under study according to Pregnancy	23
5.	Distribution of women under study according to socio-economic status	24
6.	Distribution of women under study according to Douching	25
7.	Distribution of women under study according to Sanitary napkin reuse	26
8.	Distribution of women under study according to contraception	27
9.	Distribution of women under study according to diabetes	28
10.	Distribution of women under study according to the number of sexual partners	29
11.	Distribution of women under study according to characteristics of vaginal discharge and symptoms.	32
12.	Distribution of women under study according to local examination	34
13.	Distribution of women under study according to per speculum examination	35

14.	Distribution of women under study according to vaginal pH	36
15.	Distribution of women under study according to Vaginal culture	37
16.	Distribution of women under study according to wet mount	38
17.	Distribution of women under study according to Gram Stain	39
18.	Distribution of women under study according to CBNAAT:CT/NG	40
19.	Distribution of women under study according to diagnosis	41
20.	Association of causes of Vulvovaginitis with age group	44
21.	Association of causes of Vulvovaginitis with marital status	46
22.	Association of causes of Vulvovaginitis with parity	48
23.	Association of causes of Vulvovaginitis with socio-economic status	51
24.	Association of causes of Vulvovaginitis with pregnancy	53
25.	Association of causes of Vulvovaginitis with contraception	56
26.	Association of causes of Vulvovaginitis with douching	58
27.	Association of causes of Vulvovaginitis with sanitary napkin reuse	60
28.	Association of causes of Vulvovaginitis with diabetes	62

29.	Association of causes of Vulvovaginitis with the number of sexual partners	64
30.	Association of causes of Vulvovaginitis with colour of discharge	66
31.	Association of causes of Vulvovaginitis with consistency of discharge	68
32.	Association of causes of Vulvovaginitis with the amount of discharge	70
33.	Association of causes of Vulvovaginitis with vulval itching	72
34.	Association of causes of Vulvovaginitis with malodor	74
35.	Association of causes of Vulvovaginitis with local examination	76
36.	Association of causes of Vulvovaginitis with per speculum	79
37.	Association of causes of Vulvovaginitis with vaginal pH	81

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INTRODUCTION

Vulvovaginitis is defined as the Inflammation or Infection of vagina and vulva and is associated with a variety of symptoms, including inflammation, irritation, vulvovaginal itching, “fishy” vaginal odor, dyspareunia, burning, and abnormal vaginal discharge.[1]

The prevalence of vulvovaginitis accounts for 30% of women in reproductive age group.[2,3] and vaginal discharge is seen in 1-14% of women throughout the world.[3]

Vaginal discharge may be physiological and pathological.[4,5] The normal vaginal secretions originate from sebaceous glands, skene glands, sweat glands, and Bartholin glands.

Lactobacilli, which are part of the normal vaginal flora, colonizes the vaginal epithelium and it has a role in defense against infection. It maintains the normal vaginal pH between 3.8-4.4. When microorganisms other than lactobacilli dominate over the normal vaginal flora, the resulting imbalance precludes vaginosis/vaginitis.[4] Common symptoms include vaginal discharge, malodor, introital irritation, or itching.

Vaginal discharge can be thick or thin; odorless or foul-smelling; clear, cloudy, or coloured.[4] Abnormal vaginal discharge may result in significant morbidity in the form of the pelvic inflammatory syndrome, infertility, co-infections, obstetric complications such as preterm labour, premature rupture of membranes, chorioamnionitis, and so on.[4]

The predominant etiology of symptomatic vaginal discharge is bacterial vaginosis, which is responsible for 33%-47% of cases, vaginal candidiasis is diagnosed in 20-40% of cases, and trichomoniasis in 8-10% of cases, which accounts for 90% of all etiologies of women of reproductive age.[4,6]

Bacterial vaginosis is caused by a complex change in the vaginal

microflora that favors the proliferation of anaerobic bacteria such as Mobiluncus species, Gardnerella vaginalis, and Mycoplasma sp. Vulvovaginal candidiasis, the second most prevalent cause of infectious vaginitis is caused by an overgrowth of yeasts, primarily Candida albicans, whereas trichomoniasis is caused by a flagellated protozoan parasite known as Trichomonas vaginalis.[6] Other factors that predispose to infectious vaginitis include smoking, pregnancy, use of antimicrobial agents, immunodeficiency, diabetes, and so on.[6]

Vulvovaginitis is an enigmatic condition that requires serious concern and attention.

This study was aimed to analyze the clinical presentation and various etiological agents in vulvovaginitis. Accurately assessing the prevalence and risk factors for infectious vaginitis is crucial for the development of effective interventions to improve women's reproductive health.[6]

AIMS AND OBJECTIVES

The aim was to study the clinical and etiological factors leading to vulvovaginitis.

REVIEW OF LITERATURE

Vulvovaginitis is one of the most prevalent reproductive tract infections characterized by vaginal discharge, vulval itching/irritation, and malodor.[7] This multifaceted disorder encompasses a spectrum of etiological factors and clinical manifestations, necessitating a comprehensive understanding for effective management. It is a broad differential diagnosis with the most common causes being bacterial vaginosis, vulvovaginal candidiasis, and trichomoniasis which generally accounts for 90% of all etiologies.[1,7]

ESTROGEN AND THE VAGINAL ENVIRONMENT

During the reproductive years, estrogen elevates glycogen content in vaginal epithelial cells, which facilitates the colonization of the vagina by lactobacilli. This elevated level of colonization leads to increased lactic acid production, subsequently lowering the vaginal pH to less than 4.5. The growth of pathogenic organisms is inhibited by the acidic environment and is essential for maintaining a balanced vaginal ecosystem.[1]

NORMAL VAGINAL FLORA

It is heterogeneous, comprising organisms like Gardnerella vaginalis, group B streptococci, Escherichia coli, genital Mycoplasma, and Candida albicans.[1]

ABNORMAL VAGINAL MICROBIOTA

Alterations in the normal vaginal flora or vaginal pH due to poor hygienic practices, suboptimal menstrual hygiene habits, immunodeficiencies, multiple sexual partners, oral contraceptive pill use, smoking, pregnancy, and diabetes may cause vaginitis.[2,6] Commonly diagnosed vaginal infections are bacterial vaginosis, trichomoniasis and candidiasis. Proper treatment is necessary to

reduce the risk of acquisition of other sexually transmitted infections, which have an annual incidence rate of about 5%.[2,5]

Table 1: Causes of vaginal discharge[24]

NON-INFECTIOUS	
Physiological	Non physiological
Puberty	Foreign body
Sexual activity	Drug induced
Pregnancy	Chemical
Menopause	Gynaecological abnormalities
INFECTIOUS	
Vaginal	Cervical
Bacterial vaginosis	Neisseria gonorrhoeae
Candida species	Chlamydia trachomatis
Trichomonas species	Herpes simplex virus

BACTERIAL VAGINOSIS

It is not a true inflammatory or infectious state. It represents an abnormal shift in the vaginal microflora with an overgrowth of facultative anaerobes (Gardnerella vaginalis, Bacteroides, Peptostreptococcus, Mobiluncus, and so on) and lack of hydrogen peroxide-producing lactobacilli.[1]

Bacterial vaginosis is a prevalent cause of abnormal vaginal discharge among patients of reproductive age group. It is frequently associated with sexual activity, douching, and advancing age. The global prevalence of bacterial vaginosis ranges from 8-51 %.[6]

CLINICAL PRESENTATION

Many patients are asymptomatic. Symptoms include abnormal vaginal discharge and a fishy odor, particularly after sexual intercourse and menses, irritation, pain, and itching.[1,6]

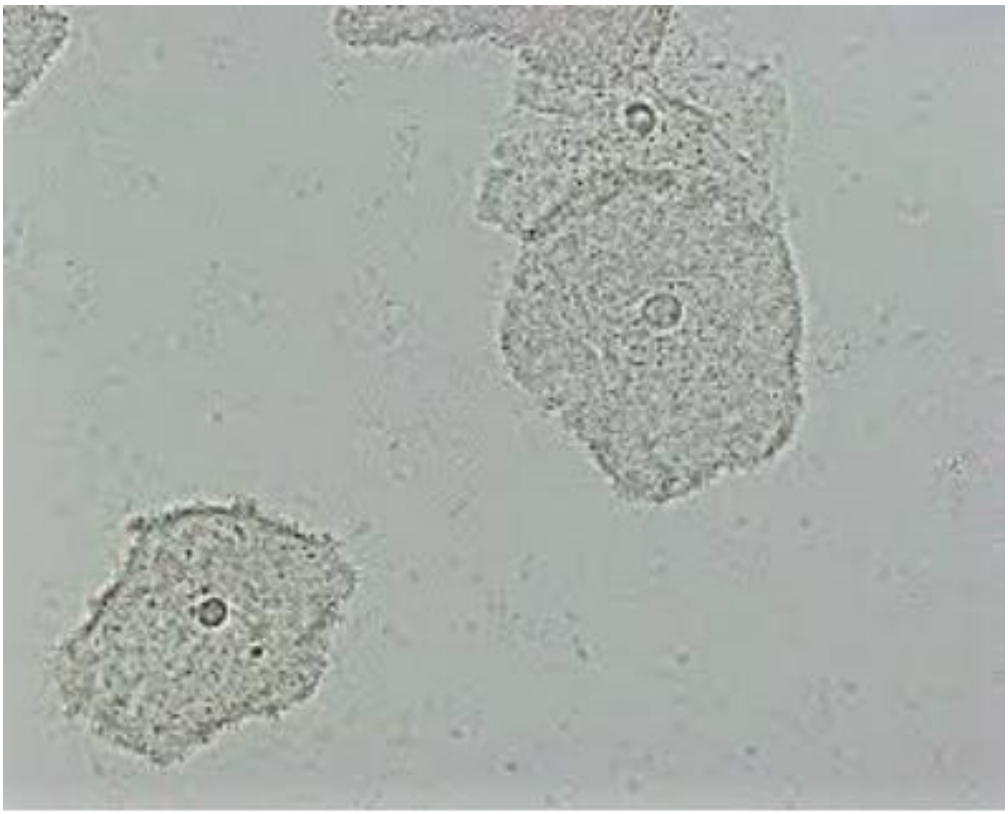
DIAGNOSIS

Vaginal samples can be diagnosed for Bacterial Vaginosis by Amsel's Criteria and Gram stain.[3,8]

Amsel's Criteria >=3 characteristics are diagnostic for bacterial vaginosis

Table 2: Amsel's Criteria [3]

S. No.	**Amsel's criteria**	
1)	Vaginal discharge	Greyish white, Thin homogenous
2)	Vaginal ph.	> 4.5
3)	Positive whiff test	Fishy amine odor of vaginal discharge after addition of 10% KOH
4)	Wet mount	Clue cells present > 20%



Picture 1: Wet Mount demonstrating clue cells in BV

Nugent's scoring: Vaginal smears are plated, 10 high power fields are examined for Gardnerella, lactobacillus, and curved gram rods and are scored from 0-10.[9]

Table 3: Scoring system for gram-stained vaginal smears [20]

Score	Lactobacillus morphotypes	Gardnerella, Bacteroides morphotypes	Curved gram variable rods
0	4+	0	0
1	3+	1+	1+ or 2+
2	2+	2+	3+ or 4+
3	1+	3+	-
4	0	4+	-

Table 4: Nugent's scoring [9]

S. No.	Score	Interpretation
1)	0-3	Negative
2)	4-6	Intermediate
3)	7+	Positive

Nugent's scoring has been disregarded because of being cumbersome and the skill level required with microscopy.[9] Amsel's criteria is generally preferred because of its ease and accessibility.[9]

COMPLICATIONS

Non-pregnant patients with untreated bacterial vaginosis face elevated risks of pelvic inflammatory disease, chronic pelvic pain, urinary tract infections, post procedural gynaecological infections, and increased susceptibility to certain sexually transmitted infections like HIV and herpes simplex virus type 2.[1,9] Obstetric complications encompass preterm births, premature rupture of membranes, low birth weight, intraamniotic infections, and related issues.[3]

VULVOVAGINAL CANDIDIASIS

It represents infection of the vagina with candida species.[1] It is the second most common cause of vulvovaginitis behind bacterial vaginosis.

Candida species invade the vaginal mucosa, triggering an inflammatory response.[10]

70% of women report vulvovaginal candidiasis once in their lifetime with 8-10% episodes of recurrence. The most common pathogen is Candida albicans, which is responsible for 90% of cases followed by Candida glabrata.[10]

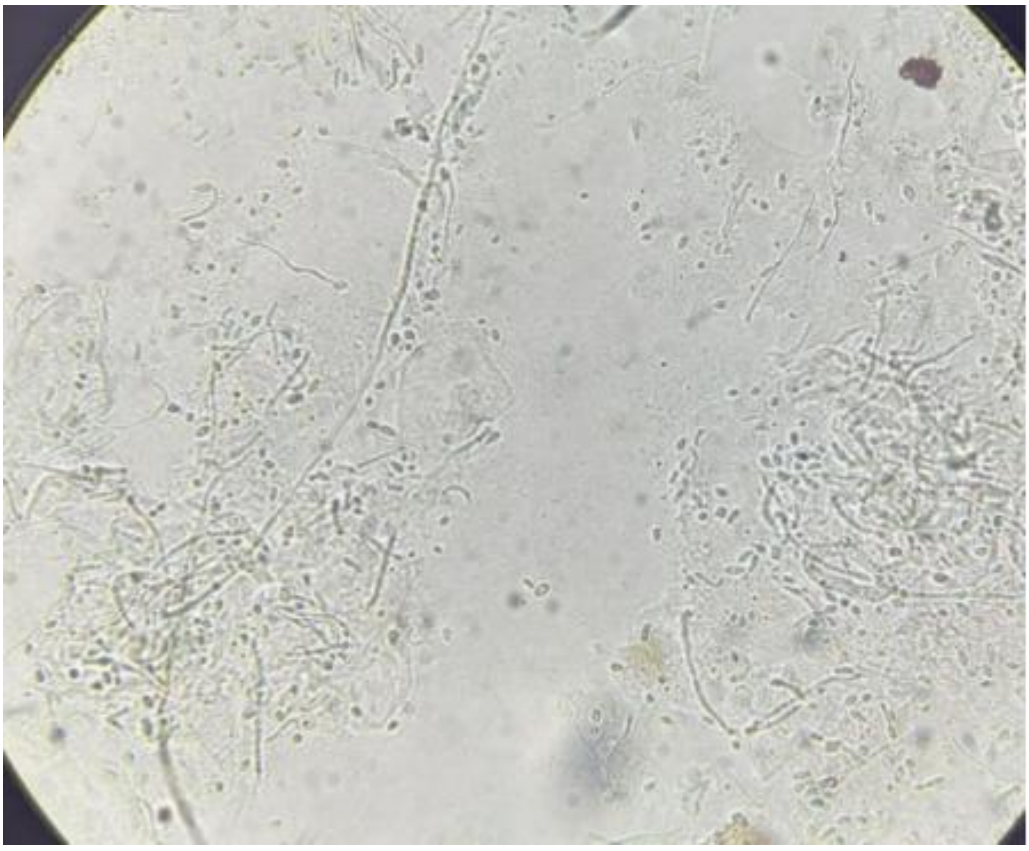
CLINICAL PRESENTATION

The spectrum of presentation ranges from asymptomatic colonization to pronounced vulvovaginal symptoms. Up to 12% of asymptomatic patients are culture-positive for candida. Classical clinical features include vulval and vaginal erythema, thick white adherent vaginal discharge, excoriations, itching, edema, dysuria, dyspareunia, and abnormal vaginal discharge.[1,10]

DIAGNOSIS[1]

Presence of any one of the two is diagnostic

1) Microscopy - spores, hyphae or pseudo hyphae
2) Vaginal fungal culture or PCR test



Picture 2: Budding yeast like cells with pseudo hyphae on microscopy

Table 5: Classification of vulvovaginal candidiasis[1]

1)Uncomplicated (presence of ALL of the following)
Sporadic or infrequent episodes
Mild to moderate symptoms or findings
Candida albicans infection (suspected or proven)
Non-immunocompromised patients
2)Complicated (presence of ANY of the following)
Recurrent episodes (>=4 episodes/year)
Severe symptoms of findings
Non candida albicans candidiasis (suspected or proven)
Diabetes, immunocompromised (HIV), debilitation or immunosuppressive therapy (corticosteroids)

Newer modalities

DNA hybridization probes are available for Gardnerella vaginalis, Trichomonas vaginalis, Candida species, Chlamydia, and gonorrhoeae. Their sensitivity is around 90%.[11] Data from a multicentre study show nucleic acid amplification tests have high sensitivity, specificity, and positive and negative predictive values (98.7%, 95.9%,96.9%and 92.9%).[12]

The latest guidelines recommend use of NAAT's over conventional testing.[12,30] However, due to cost issues and limited availability, molecular tests have been reserved for patients with resistant or recurrent symptoms. It can be done in patients in whom no other common infectious agent is found. To achieve the most cost-effective approach, greater emphasis is placed on clinical evaluation, supported by enhanced microscopy techniques.[12]

Other less common causes of vulvovaginitis may include desquamative inflammatory vaginitis, allergies, chemical irritation, atrophic vaginitis, cervicitis and foreign bodies.[11]

To prevent recurrent infections, the patient should be educated on proper toileting and wiping techniques. Patients should be advised that douching does increase the risk of infections.[11] Despite this, recurrence is common and can result in excoriations, chronic irritation, and scarring. Additionally, it can result in decreased libido, impaired sexual function, psychosocial challenges, and emotional distress.[11]

A study conducted in 2019, showed an increased incidence of vulvovaginitis in the median age group of around 36 years. The main symptoms included vaginal discharge (46.6%), odor (28.6%), and dyspareunia (13.3%). Bacterial vaginosis was the predominant cause (83.3%).[31]

Brown et al. conducted a study in 2020 regarding vulvovaginitis and concluded the most common cause of vulvovaginitis was bacterial vaginosis in 22-50% followed by vulvovaginal candidiasis in 17-39%, trichomoniasis in 4-35% of cases. However, he also concluded that vulvovaginitis may remain undiagnosed in 7%-72% of patients.[12]

A cross-sectional study conducted by Chemebetei et al and Jithendra et al. in 2017 concluded vulvovaginitis was most common among 27-36 years of age and in multiparous women. The most common symptom observed was vaginal discharge followed by vaginal irritation and malodor. Unhygienic practices leading to vulvovaginitis were among the common causes.[13]

Various studies report that the prevalence of vulvovaginal candidiasis is around 10-35 % in India. Pregnancy is a significant risk factor. Complicated vulvovaginal candidiasis is seen in 10-20% women.[14,15]

Claire et al. concluded that about 80% of gynaecological visits result from vulvovaginitis in the prepubertal group, the most common cause being infectious.[16]

Kalia et al in 2019 reported a high recurrence rate of bacterial vaginosis, with 30-50% of cases recurring within 3 months while experiencing >= 4 repetitive episodes of Vulvovaginal candidiasis within a year is classified as recurrent Vulvovaginal candidiasis. However, the recurrence rate of trichomoniasis is around 5-8% within 2 months of initial diagnosis.[17]

In a study by Paladine et al in 2018, he concluded bacterial vaginosis was the most common cause of vulvovaginitis followed by vulvovaginal candidiasis and trichomoniasis. It also reported the incidence of non-infectious causes of vulvovaginitis was around 5%-10%.[18]

A first meta-analysis conducted in Iran in 2021, showed the prevalence of vulvovaginitis around 45%, which is linked to complications such as preterm labour, congenital cutaneous candidiasis, preterm births, and infertility.[19]

Various studies report the role of PAP smears in diagnosing atrophic vaginitis. The patient may present with a dry sensation or watery discharge with occasional spotting or bleeding. Apart from postmenopausal women, it can be seen in postpartum lactating women and women with athletic amenorrhoea.[21]

In a study conducted in Egypt in 2022 with 516 volunteers, it was more commonly seen in pregnant women. 24% of women reported mixed infections which might be left undiagnosed, prolonging patient suffering. Candida albicans was the most common fungal species causing vulvovaginal candidiasis.[22] The study recommended the need for improvement of diagnostic methods to capture mixed infections.[22]

In a cross-sectional study conducted in Jaipur in 2024, Among 100 women of reproductive age group, a higher incidence of vulvovaginitis was observed in those aged 35-45 years age group (63.8%), particularly among married women (63.9%), females with >=3 sexual partners (66.7%), illiterate, those with any co-morbidity(80%) and

females not using any contraceptive method(100%). They concluded higher age, lack of education, multiple sexual partners and not using contraception can increase the risk of bacterial vaginosis.[23]

A cross-sectional study conducted on 214 study participants from February 1 to May 31, 2019, in Northwest Ethiopia concluded the overall prevalence of vulvovaginitis was around 50%. The etiologies of vulvovaginitis were bacterial vaginosis (33.5%), candidiasis (23.8%), and trichomoniasis (3.3%). The prevalence of multidrug resistance was 38.98%.[25]

Many studies found the characteristic vulval itching and abnormal “cheese-like” vaginal discharge with vulvovaginal Candidiasis. It is estimated to be the second most common cause of vaginitis following bacterial vaginosis.[26]

A cross-sectional study conducted in Yemen in 2019 demonstrated an increased prevalence of vaginal infections amongst reproductive-aged women (27.2%). Age<25 years and use of intrauterine contraceptive devices were significantly associated with bacterial vaginosis.[27]

In a study conducted in China from 2014 to 2019, a higher rate of vaginal infections among HPV positive population. The most common vaginal infections in liquid-based cytology include bacterial vaginosis, vulvovaginal candidiasis, trichomoniasis, and herpes simplex.[28]

Nowadays completely new research on vulvovaginitis diagnosis based on molecular detection of organisms using a vaginal panel assay is available. The vaginal assay could enhance the diagnostic accuracy for vaginitis and promote effective and timely treatment.[29] However, there is a lack of sufficient data regarding the efficacy of nucleic acid amplification testing among the vaginal infections group. Routine testing is currently too expensive in public health settings.

MATERIALS AND METHODS

SOURCE OF DATA

This was a hospital-based, Prospective cross-sectional study conducted on 250 women presenting with vulvovaginitis in the Department of Obstetrics and Gynaecology at Dayanand Medical College and Hospital, Ludhiana (Punjab), a tertiary care hospital from January 2023 till August 2023.

INCLUSION CRITERIA

Sexually active females between 18-60 years, able to provide vaginal specimens with any of the following

1. Vaginal discharge
2. Vaginal itching
3. Vaginal Burning
4. Vulval Itching/Irritation

EXCLUSION CRITERIA

1. Menstruating women
2. Age <18years
3. Age>60years
4. Unmarried
5. H/O antibiotic therapy in past 2 weeks

STUDY SAMPLE

In this study, 250 women presenting with Vulvovaginitis in the Department of Obstetrics and Gynaecology at Dayanand Medical College and Hospital, Ludhiana from January 2023 to August 2023 were included after taking informed consent. This study was approved by the Institutional Ethical Committee and Faculty of Medical Sciences.

METHODS OF COLLECTION OF DATA

All patients fulfilling the inclusion criteria were selected. Patients presenting with vulvovaginitis with one or more of the following symptoms: change in colour and odor of vaginal discharge, vaginal itching and burning, and vulval itching/irritation were selected.
A detailed history was taken and a clinical examination was done after obtaining informed consent. Using a structured questionnaire, socio-demographic factors, associated factors, and relevant clinical information were collected.

A) Clinical examination

Local examination and sterile per speculum examination were done for the characteristics of vaginal discharge (colour, consistency, amount, odor). Then, vaginal pH was measured using pH paper.

B) Sample collection and microscopy

Three vaginal samples were collected using sterile cotton-tipped swabs and transported immediately to the laboratory.

1) The first sample was spread onto three slides –

Slide 1- Wet mount
Slide 2- KOH smear
Slide 3- Gram stain

2) Second sample- High Vaginal Swab for culture
3) Third sample (optional)- CBNAAT for CT/NG in cases in which no other common infectious agent causing vulvovaginitis was found.

Laboratory identification techniques

<u>KOH smear, Wet smear preparation, and Gram Stain:</u>

1. Wet mount - Trichomonas vaginalis was identified by its characteristic pear-shaped trophozoite morphology and characteristic jerky motility on saline wet mount microscopy examination under bright field microscopy at

40x objective. Clue cells along with PMN were seen in the case of bacterial vaginosis.

2. 10% KOH smear- The presence of budding yeast-like cells and pseudo hyphae denotes fungal infection. Bacterial vaginosis had a characteristic fishy odor after the addition of 10% KOH.
3. Gram stain showed the presence of pseudohyphae in VVC. Normal vaginal flora was seen as gram-positive bacilli. Trichomoniasis showed flagella with axostyle. Bacterial vaginosis showed gram-negative coccobacilli.

Culture techniques:

A second vaginal swab was inoculated on blood agar and McConkey agar plates were incubated at 35-37 degree Celsius for 18-24 hours aerobically. Plates with no growth after 24 hours were re-incubated for a further 24 hours. Vaginal culture confirmed the presence of candida or secondary bacterial infections.

CBNAAT (optional):

It was done for Chlamydia trachomatis and Neisseria gonorrhoeae in which no other common infectious agent was found.

It is the most recent molecular tool employed for resistant or recurrent vulvovaginitis.

Picture 3: Automated real time PCR system (Courtesy: DMCH Microbiology Lab)

Picture 4: CT/NG chip-based real-time PCR test kit (Courtesy: DMCH Microbiology Lab)

- Bacterial vaginosis was diagnosed using Amsel's criteria.

- Vulvovaginal candidiasis was diagnosed using a 10% KOH smear or gram stain or vaginal swab culture.
- Trichomoniasis was detected on Wet mount microscopy.
- Mixed infections were diagnosed when >1 organisms were present.
- CBNAAT for CT/NG was done in which other common infectious organisms were not found.

STATISTICAL ANALYSIS

Data were described in terms of range; mean ± standard deviation (± SD), frequencies (number of cases), and relative frequencies (percentages) as appropriate. For comparing categorical data, the Chi-square (χ^2) test was performed and the Fisher exact test was used when the expected frequency was less than 5. A probability value (*p-value*) less than 0.05 was considered statistically significant. All statistical calculations were done using (Statistical Package for the Social Science) SPSS 21.0 version (SPSS Inc., Chicago, IL, USA) statistical program for Microsoft Windows.

OBSERVATIONS AND RESULTS

In our study, a total of 250 women were enrolled with Vulvovaginitis. The prevalence of infectious etiologies such as Bacterial vaginosis, Vulvovaginal candidiasis, Trichomoniasis, Mixed infections, and other causes were determined. Clinical and etiological factors causing vulvovaginitis were studied.

The results were analyzed as:

DEMOGRAPHIC PARAMETERS

1. Age
2. Marital status
3. Parity
4. Pregnancy
5. Socio economic status

1) Age Group (in years)

Table 6: Distribution of women under study according to age group

AGE GROUP (years)	No. of cases (n)	Percentage (%)
18-25	55	22.0
26-35	121	48.4
36-45	49	19.6
46-55	20	8.0
56-60	5	2.0
Total	250	100.0

In our study of 250 women in the reproductive age group between 18-60 years, Age group 26-35 had the maximum incidence of vulvovaginitis (48.4%), followed by 22% in the 18-25 age group, 19.6% in the 36-45 years, 8.0% in the 46-55 years and less incidence of 2% in 56-60 years age.

The mean age of the study population was 32.92 years with a standard deviation of 9.04 years.

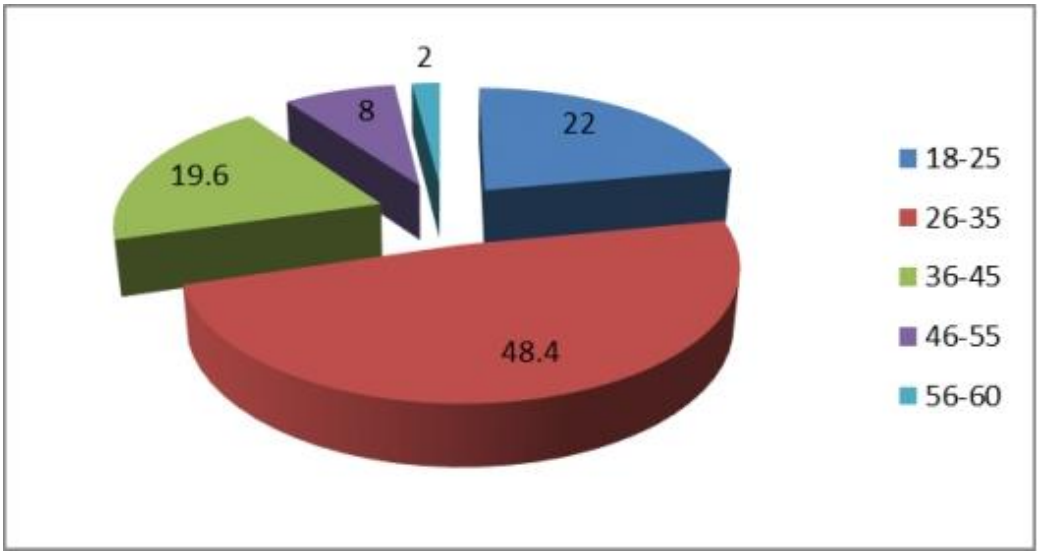


Figure 1: Distribution of women under study according to age group

2) Marital Status

Table 7: Distribution of women under study according to Marital status

MARITAL STATUS	No. of cases (n)	Percentage (%)
Divorced	39	15.6
Married	202	80.8
Widow	9	3.6
Total	250	100.0

Of the population, the proportion of vulvovaginitis was higher among married women (80.8%) than divorced (15.6%) and widow (3.6%).

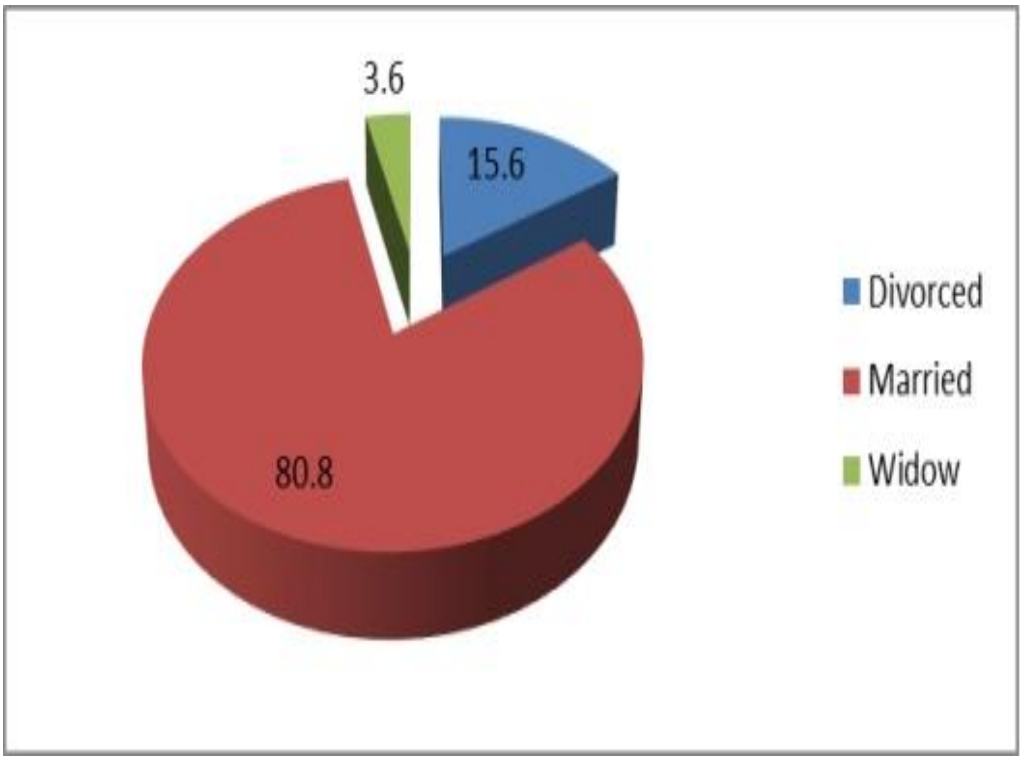


Figure 2: Distribution of women under study according to Marital status

3) Parity

Table 8: Distribution of women under study according to Parity

PARITY	No. of cases (n)	Percentage (%)
Multiparous	97	38.8
Nulli	78	31.2
Primi	75	30.0
Total	250	100.0

Out of 250 women, 38.8% (n=97) women were multiparous, 30.0% (n=75) were primi and 31.2% (n=78) were nulliparous.

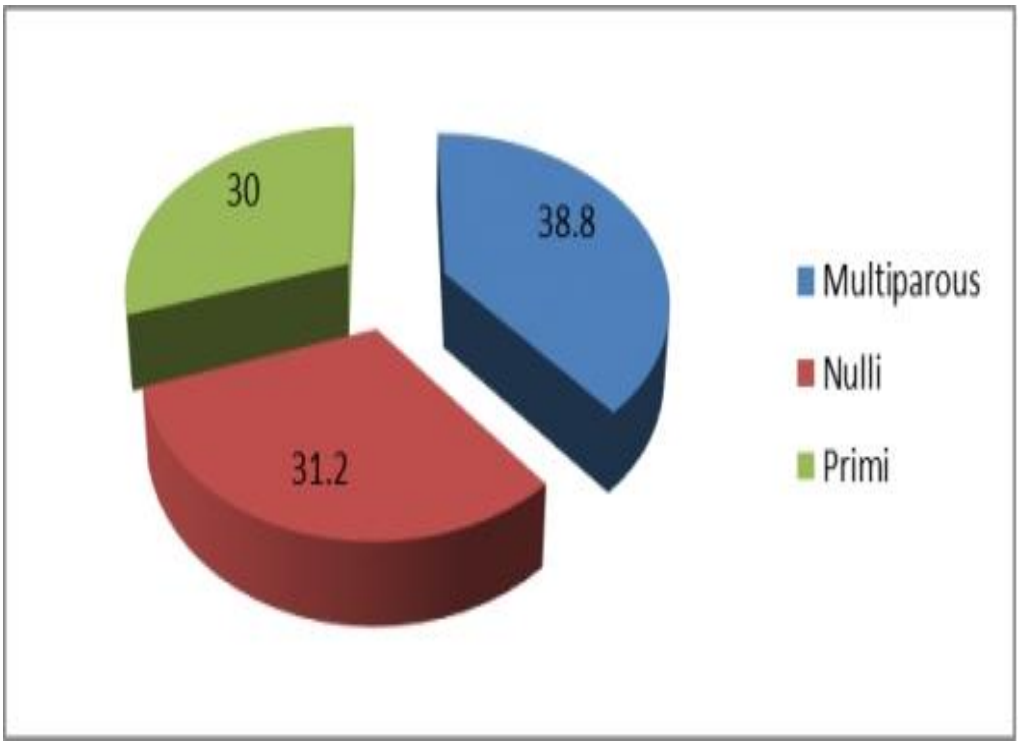


Figure 3: Distribution of women under study according to Parity

4) Pregnancy

Table 9: Distribution of women under study according to Pregnancy

PREGNANCY	No. of cases (n)	Percentage (%)
No	190	76.0
Yes	60	24.0
Total	250	100.0

In our study, majority of women 76% (n=190) were non pregnant and 24% (n=60) were pregnant.

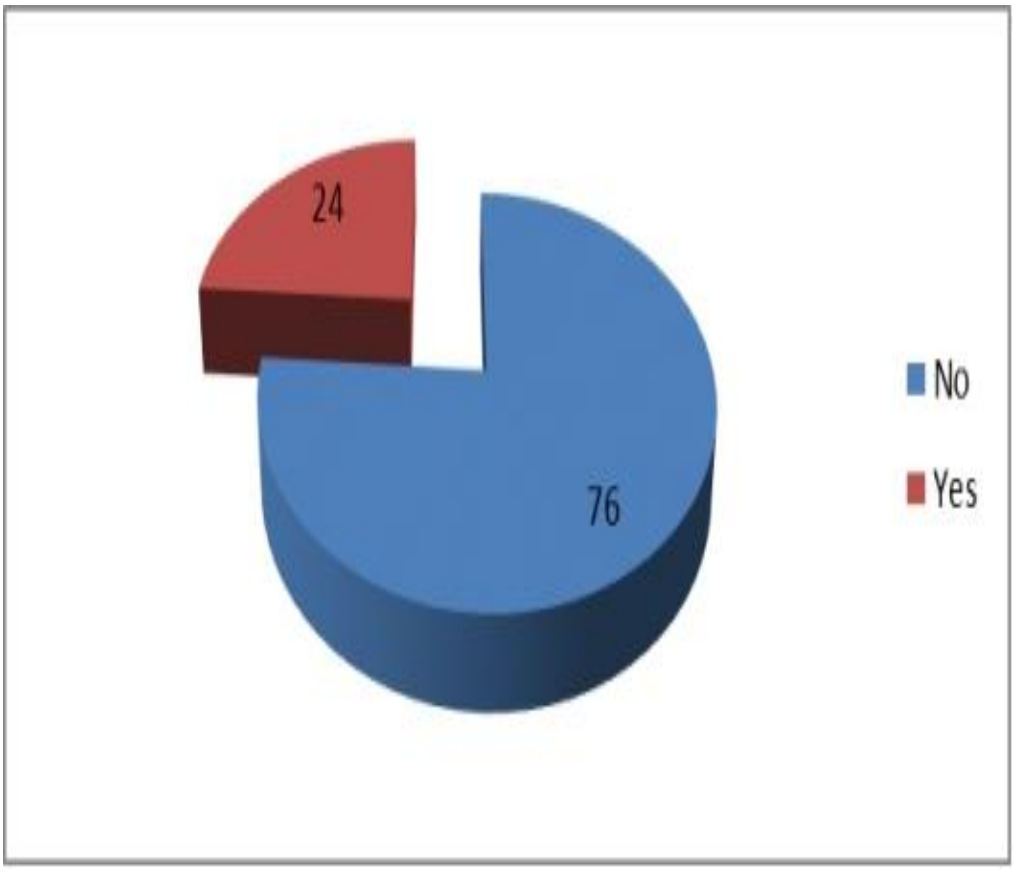


Figure 4: Distribution of women under study according to Pregnancy

5) Socio economic status

Table 10: Distribution of women under study according to socio-economic status

SOCIO-ECONOMIC STATUS	No. of cases (n)	Percentage (%)
Lower Class (below 5)	60	24.0
Upper lower (5-10)	84	33.6
Lower middle (11-15)	44	17.6
Upper middle (16-25)	32	12.8
Upper class (26-29)	30	12.0
Total	250	100.0

Majority of cases were from the upper lower class, n=84 (33.6%), followed by n=60 (24%) from the lower class. Out of 250 cases, 44 (17.6%) were from lower middle class, 32 (12.8%) and 30 (12%) were from upper middle and upper class respectively.

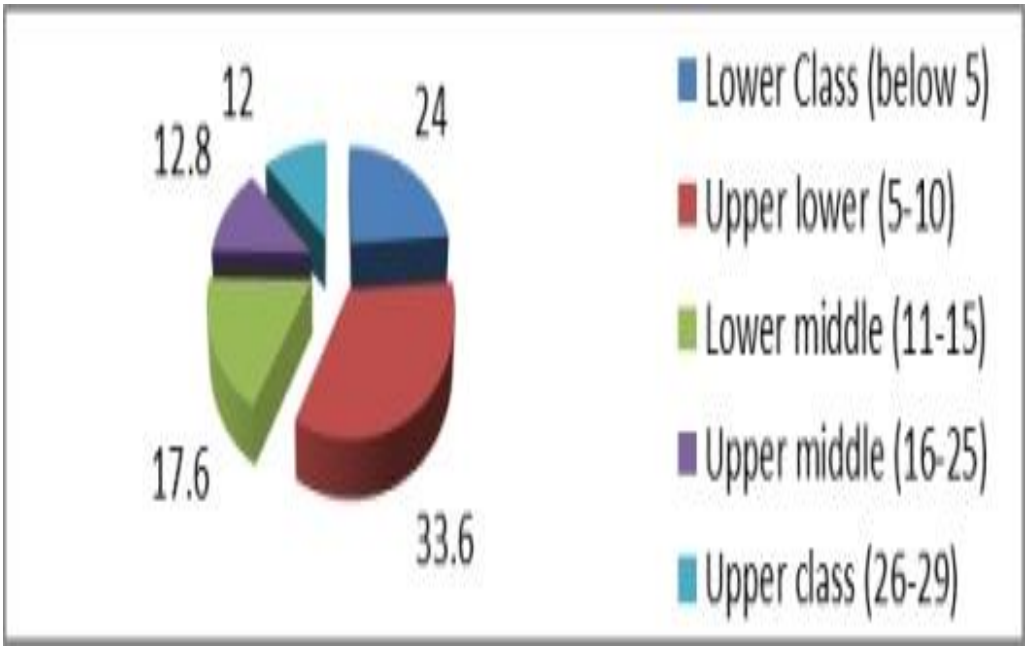


Figure 5: Distribution of women under study according to socio-economic status

RISK FACTORS FOR VULVOVAGINITIS

1. Douching
2. Sanitary napkin reuse
3. Contraception
4. Diabetes
5. Number of sexual partners

1) Douching

Table11: Distribution of women under study according to Douching

DOUCHING	No. of cases (n)	Percentage (%)
No	72	28.8
Yes	178	71.2
Total	250	100.0

In our study group, the maximum incidence of vulvovaginitis was seen in women who did douching 71.2% (n=178), rather than who didn't do douching 28.8% (n=72).

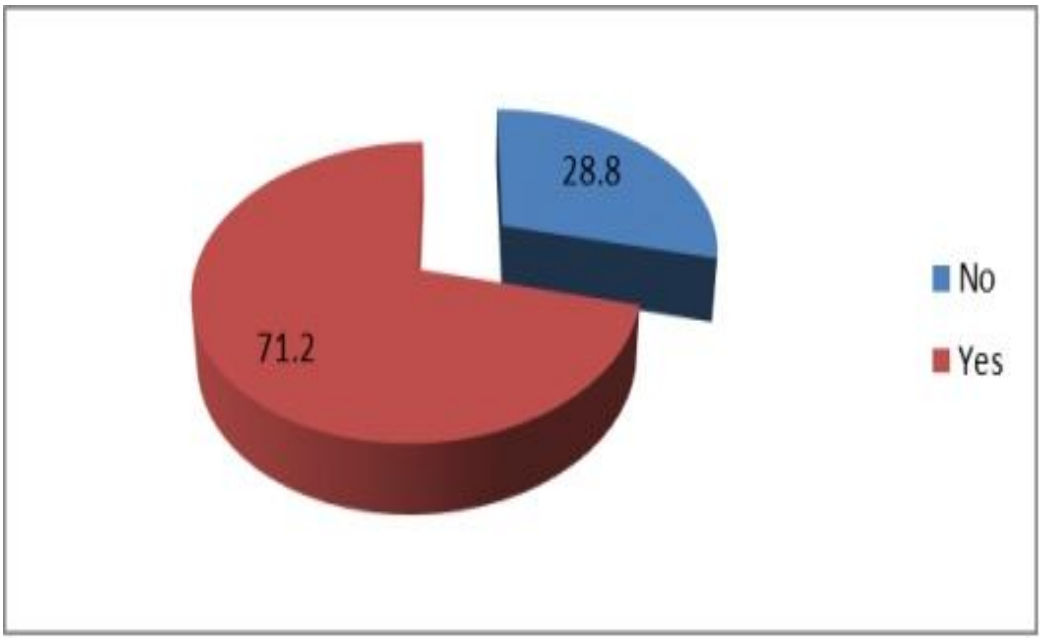


Figure 6: Distribution of women under study according to Douching

2) **Sanitary napkin reuse**

Table12: Distribution of women under study according to Sanitary napkin reuse

SANITARY NAPKIN REUSE	No. of cases (n)	Percentage (%)
No	96	38.4
Yes	154	61.6
Total	250	100.0

In our study, vulvovaginitis was seen in patients who reused sanitary napkins 61.6% (n=154) whereas only 38.4% (n=96) in cases who didn't reuse sanitary napkins.

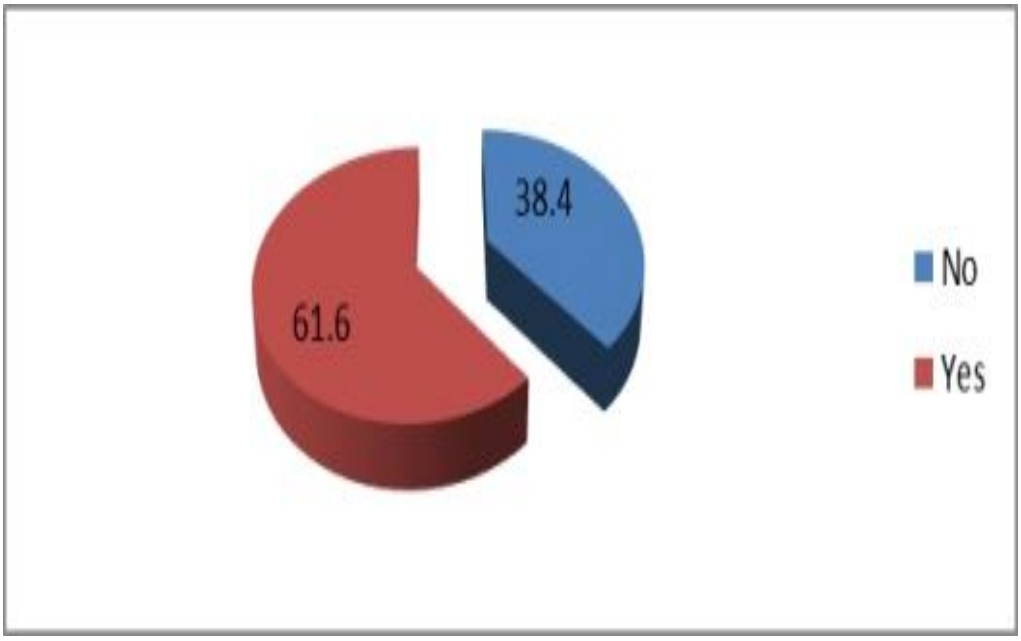


Figure 7: Distribution of women under study according to Sanitary napkin reuse

3) Contraception

Table13: Distribution of women under study according to Contraception

CONTRACEPTION	No. of cases (n)	Percentage (%)
None	69	27.6
Barrier	61	24.4
Depo	17	6.8
Emergency Pills	7	2.8
IUCD	17	6.8
OCP's	79	31.6
Total	250	100.0

In our study group, Maximum vulvovaginitis was seen in patients who were OCP users (31.6%) followed by 27.6% and 24.4% using no method of contraception and barrier method respectively. Less incidence of vulvovaginitis was seen in depo users (6.8%), IUCD users (6.8%) and least in emergency pills user (2.8%).

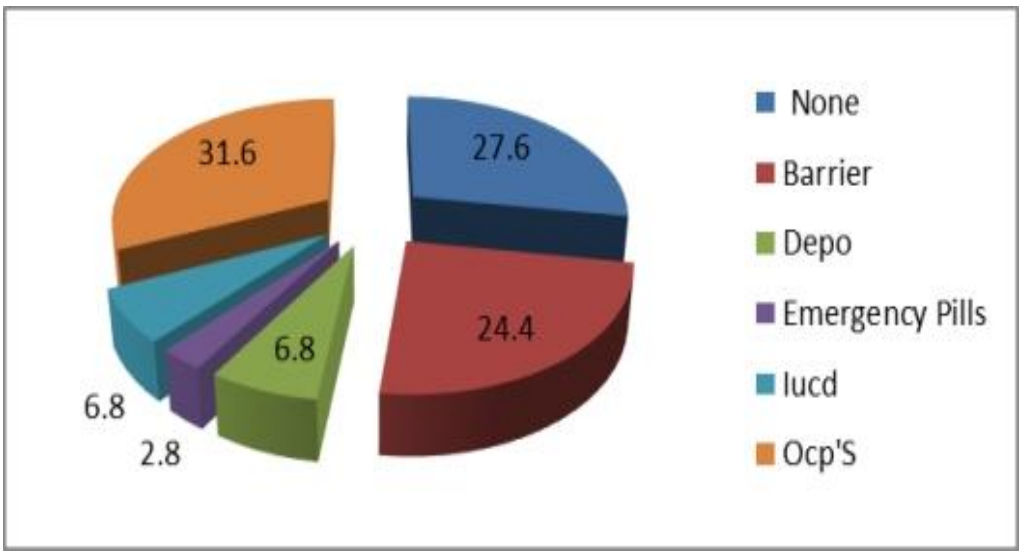


Figure 8: Distribution of women under study according to contraception

4) **Diabetes**

Table14: Distribution of women under study according to Diabetes

DIABETES	No. of cases (n)	Percentage (%)
No	104	41.6
Yes	146	58.4
Total	250	100.0

Out of 250 cases, n=146 (58.4%) were diabetic and the rest 104 were non diabetic (41.6%)

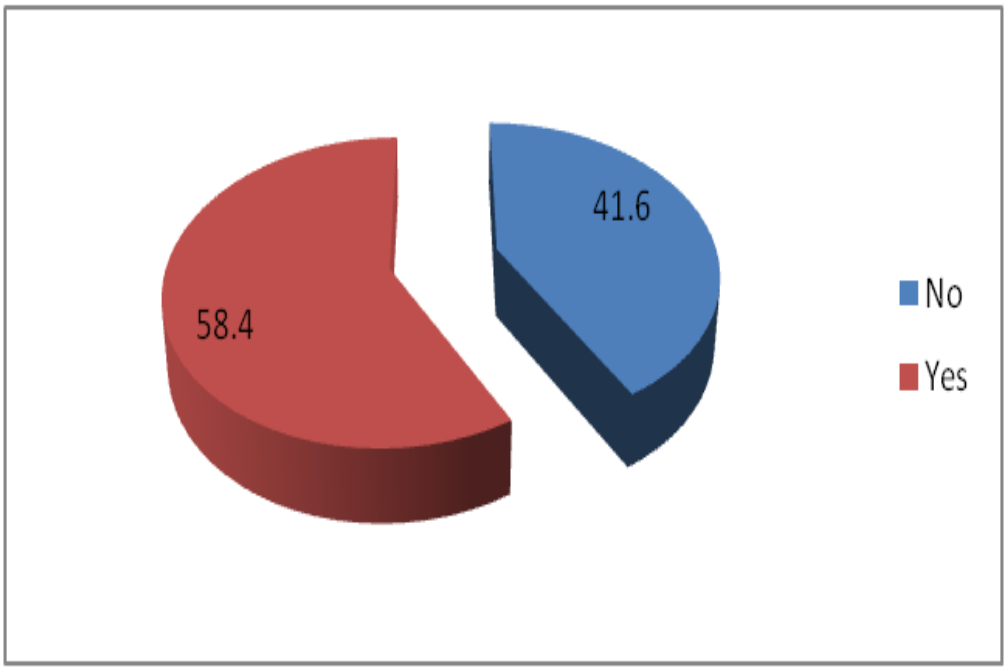


Figure 9: Distribution of women under study according to diabetes

5) Number of sexual partners

Table15: Distribution of women under study according to number of sexual partners

NUMBER OF SEXUAL PARTNERS	No. of cases (n)	Percentage (%)
Multiple	136	54.4
Single	114	45.6
Total	250	100.0

Maximum incidence of vulvovaginitis 54.4% (n=136) was seen in patients with multiple sexual partners (>=2) in the past 12 months than in patients with single sexual partners 45.6% (n=114).

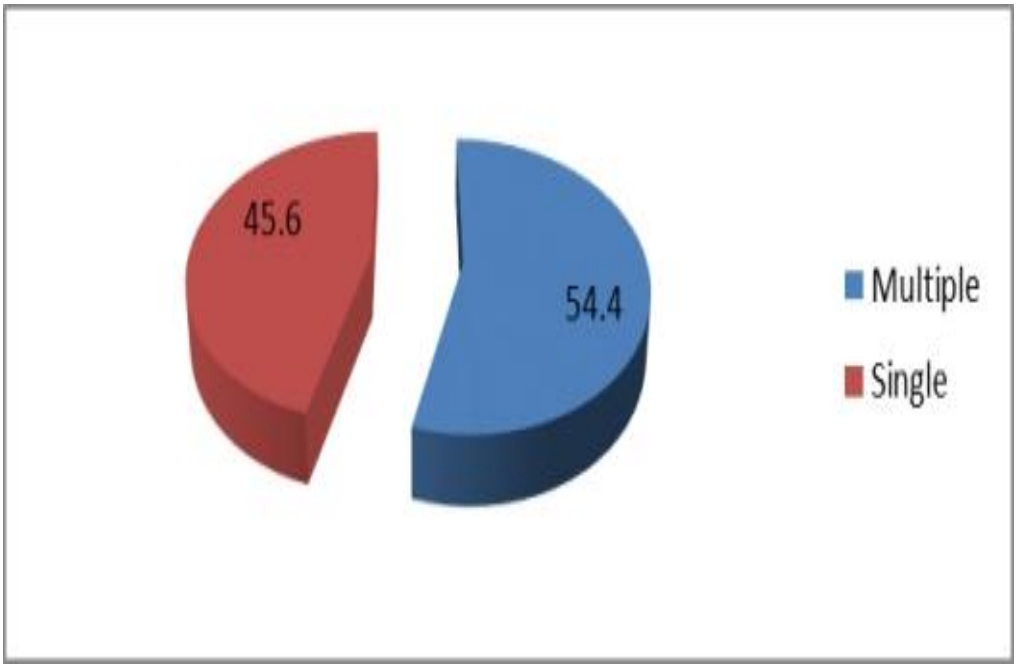


Figure 10: Distribution of women under study according to the number of sexual partners

CHARACTERISTIC FEATURES OF VAGINAL DISCHARGE AND SYMPTOMS

1. Colour of discharge

2. Consistency of discharge

3. Amount of discharge

4. Vulval itching

5. Malodor

Table16: Distribution of women under study according to characteristics of vaginal discharge and symptoms

S. No.	CHARACTERISTIC OF VAGINAL DISCHARGE	No. of Cases (n)	Percentage (%)
1.	COLOUR OF DISCHARGE		
	Altered colour	19	7.6
	Blood stained	15	6.0
	Curdy white	82	32.8
	Greenish yellow	26	10.4
	Greyish white	108	43.2
2.	CONSISTENCY OF DISCHARGE		
	Thick	119	47.60
	Thin	131	52.40
3.	AMOUNT OF DISCHARGE		
	Profuse	58	23.20
	Scanty	192	76.80
4.	VULVAL ITCHING		
	No	146	58.40
	Yes	104	41.60
5.	MALODOR OF DISCHARGE		
	No	91	36.4
	Yes	159	63.6

The various characteristic feature of vaginal discharge found in our study showed about 108 cases (43.2%) out of 250 women had greyish white discharge, 82 cases (32.8%) had curdy white followed by greenish-yellow in 26 cases (10.4%), altered colour (7.6%) and blood stained discharge (6.0%)

The discharge was thick in 47.6% whereas thin in 52.4% of cases. 192 cases (76.8%) out of 250 had scanty discharge and the rest 23.2% had profuse discharge. Vulval itching was associated with 41.6% (n=104). Malodored discharge was seen in 63.6% (n=159) cases.

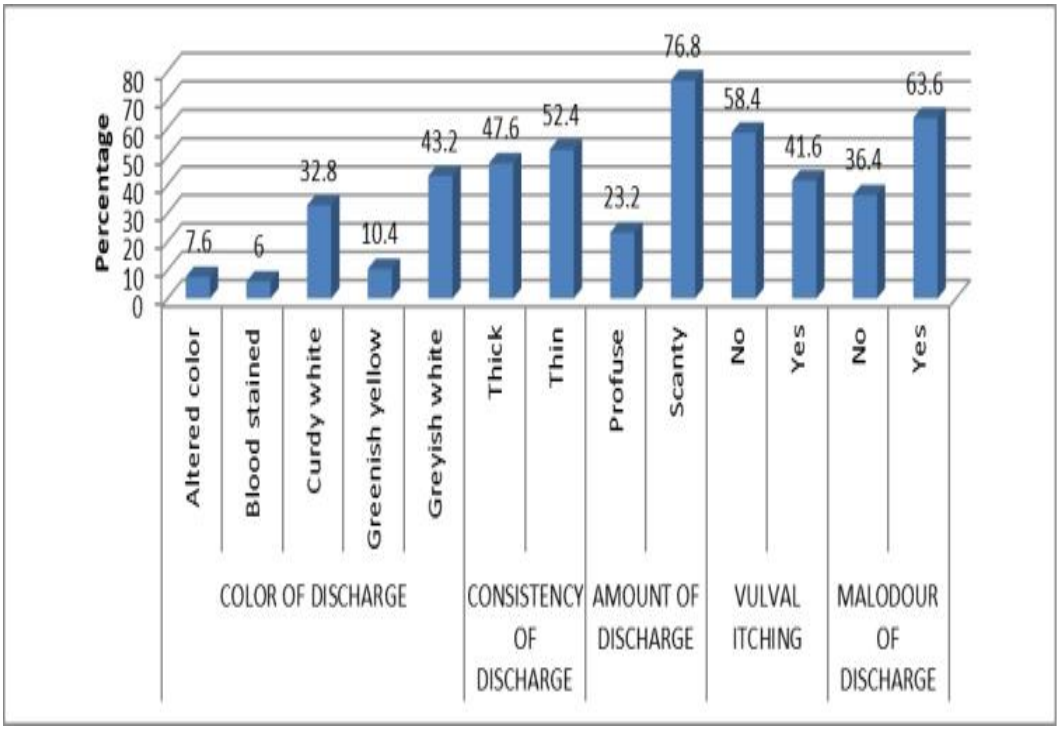


Figure 11: Distribution of women under study according to characteristics of vaginal discharge and symptoms.

DIAGNOSTIC CRITERIA

1. Clinical examination
2. Vaginal pH
3. Vaginal culture
4. Wet mount
5. Gram stain
6. CBNAAT

1) **Clinical examination**

Table17: Distribution of women under study according to local examination

S. No.	LOCAL EXAMINATION	No. of cases (n)	Percentage (%)
1	Normal	100	40.0
2	Excoriation	26	10.4
3	Vulval atrophy	4	1.6
4	Vulval swelling	29	11.6
5	Vulvitis	91	36.4

Clinical examination included local and per speculum examination. Majority of cases of vulvovaginitis on local examination showed normal findings in 40% of cases, and vulvitis in 36.4% of cases. Vulval swelling and excoriation was seen in 11.6% and 10.4% of cases respectively, vulval atrophy in 1.6% cases.

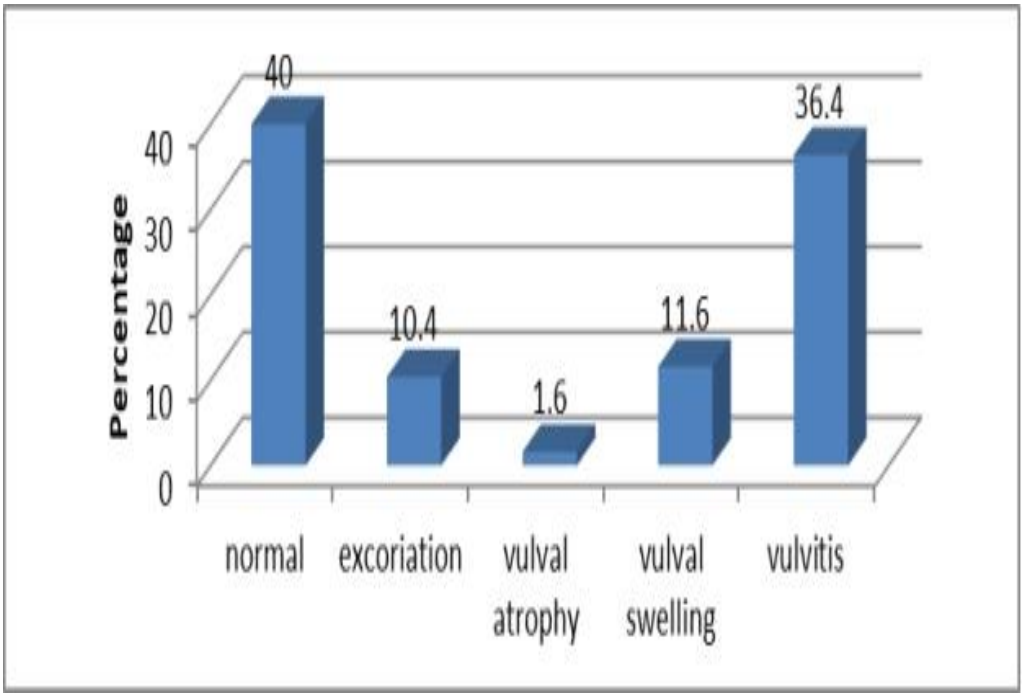


Figure 12: Distribution of women under study according to local examination

Table18: Distribution of women under study according to per speculum examination

S. No.	PER SPECULUM EXAMINATION	No. of cases (n)	Percentage (%)
1	Normal	25	10
2	Altered discharge	39	15.6
3	Blood stained	9	3.6
4	Curdy white	76	30.4
5	Greenish yellow	21	8.4
6	Greyish white	80	32.0

Per speculum examination showed greyish white discharge (32.0%), creamy curd-like candidal discharge in 30.4% of cases, and greenish yellow in 8.4% cases. Others included altered colour in 15.6%, normal in 10.0%, and blood-stained discharge in 3.6% of cases.

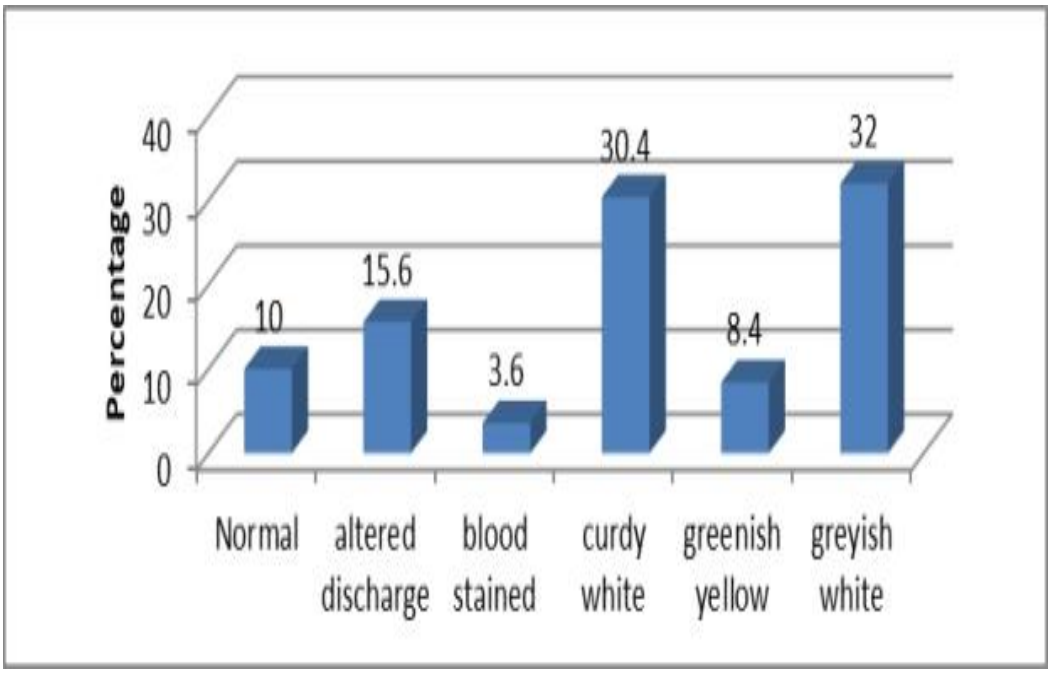


Figure 13: Distribution of women under study according to per speculum examination

2) **Vaginal pH**

Table 19: Distribution of women under study according to vaginal pH

VAGINAL pH	No. of cases (n)	Percentage (%)
> 4.5	147	58.8
< 4.5	103	41.2
Total	250	100.0

In 147 cases out of 250 (58.8%), the vaginal ph was >4.5, and the rest 41.2% had vaginal ph <4.5.

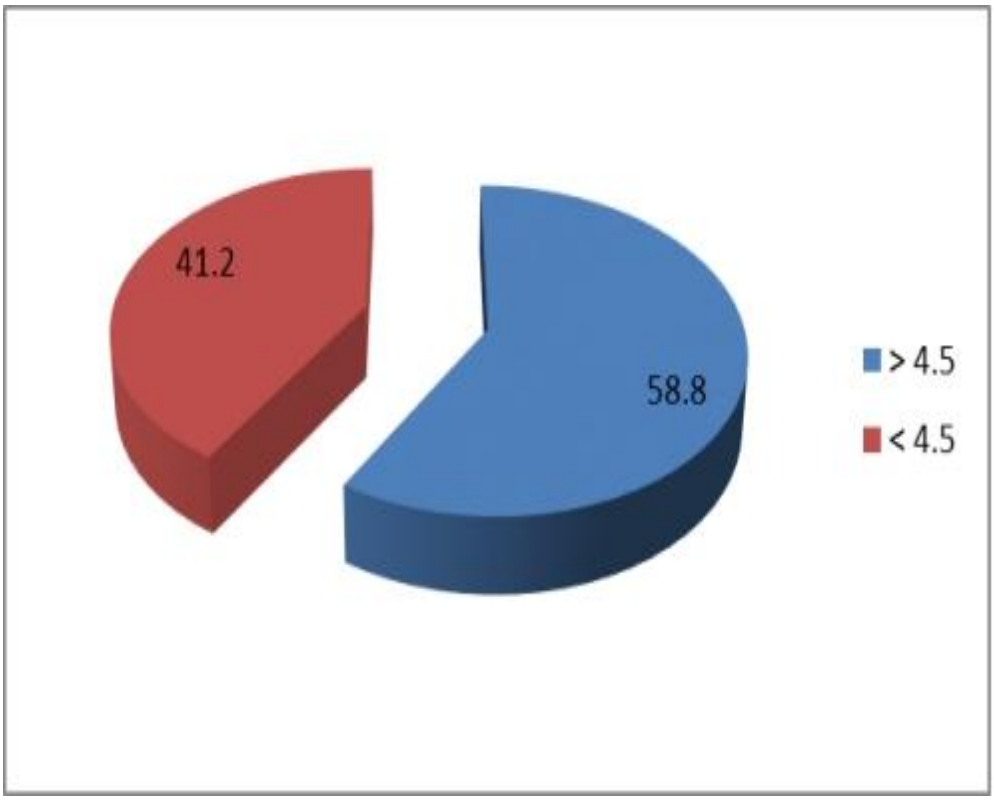


Figure 14: Distribution of women under study according to vaginal pH

3) Vaginal culture

Table20: Distribution of women under study according to Vaginal culture

VAGINAL CULTURE	No. of cases (n)	Percentage (%)
Candida	76	30.4
No Growth	145	58.0
Others	29	11.6
Total	250	100.0

High vaginal swab culture showed candidal growth in 30.4% cases (n=76), followed by no growth in 58% (n=145) and other organisms in 11.6% cases (n=29)

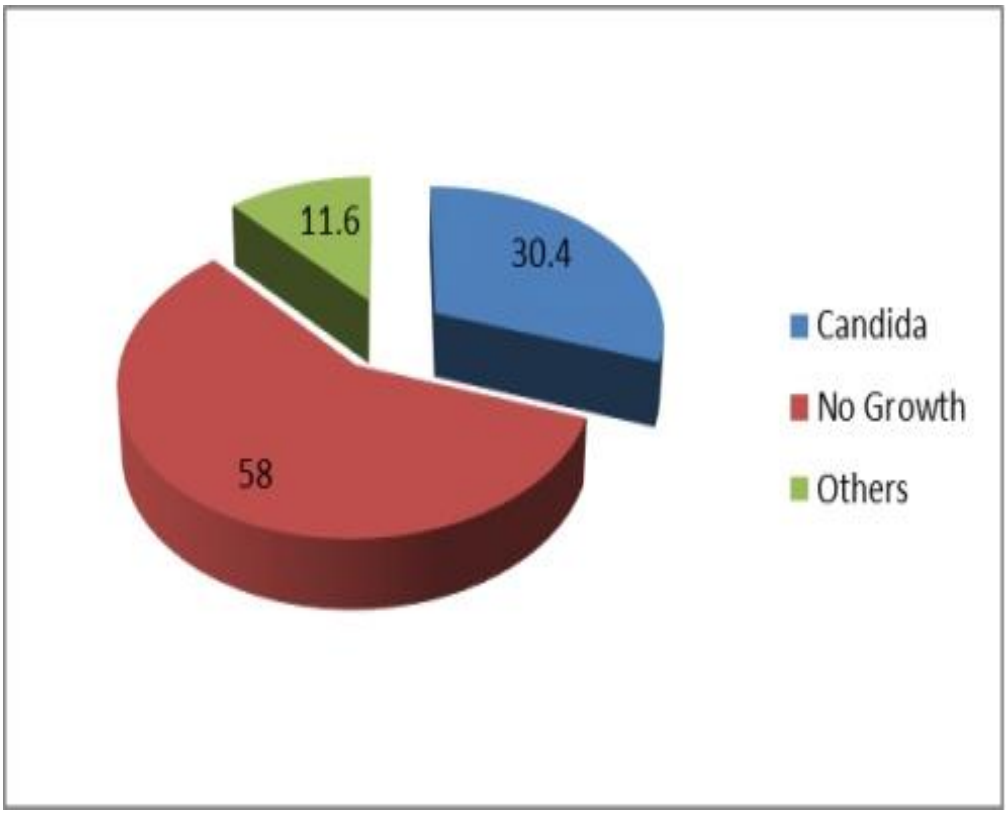


Figure 15: Distribution of women under study according to Vaginal culture

4) Wet Mount

Table 21: Distribution of women under study according to Wet mount

WET MOUNT	No. of cases (n)	Percentage (%)
BYLC* With Pseudohyphae	59	23.6
BYLC* With Pseudohyphae With Clue Cells	10	4.0
Clue Cells With PMN's	92	36.8
Negative	70	28.0
Pear Shaped Trophozoite With Jerky Motility	19	7.6
Total	250	100.0

BYLC* - Budding yeast-like cells

Wet mount examination showed clue cells with PMN's in 36.8% (n=92) followed by BYLC with pseudohyphae in 23.6% (n=59). BYLC with pseudohyphae along with clue cells were seen in 4% (n=10). Pear-shaped trophozoite with characteristic jerky motility were seen in 7.6% (n=19). However, results were negative in 28% (n=70).

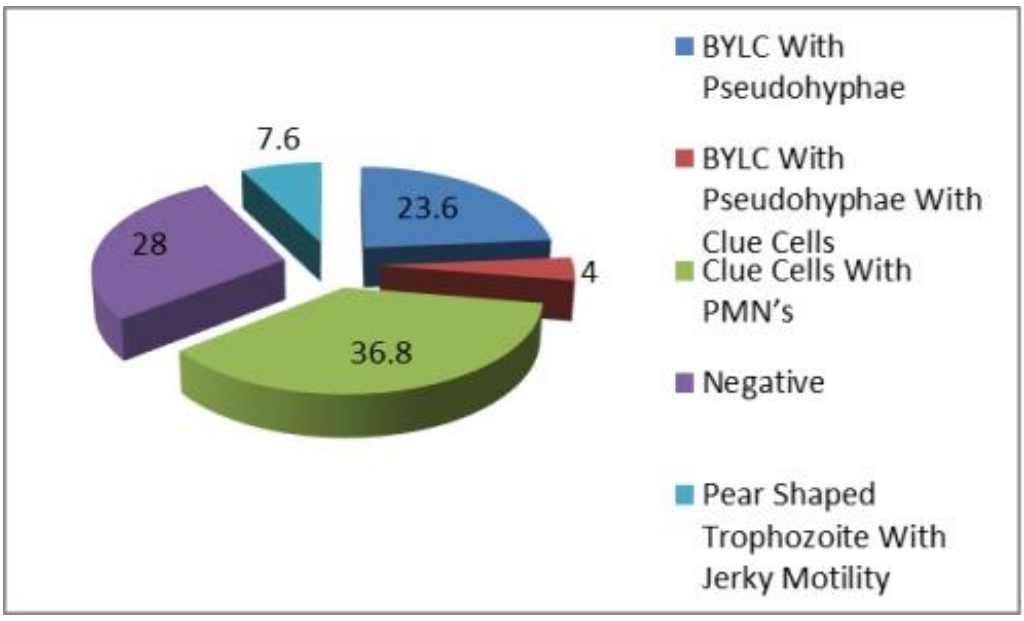


Figure 16: Distribution of women under study according to Wet mount

5) Gram Stain

Table 22: Distribution of women under study according to Gram Stain

GRAM STAIN	No. of cases (n)	Percentage (%)
Gram positive bacilli	43	17.2
Gram negative coccobacilli	102	40.8
Gram-negative coccobacilli with pseudohyphae	9	3.6
Pseudohyphae	78	31.2
Flagella with axostyle	18	7.2
Total	250	100.0

Gram stain results showed Gram-negative coccobacilli in 40.8% (n=102). Pseudohyphae was seen in 31.2% (n=78). Gram-negative coccobacilli along with pseudohyphae were seen in 3.6% (n=9). Flagella with axostyle was seen in 7.2% (n=18). Normal vaginal flora as gram-positive bacilli was seen in 17.2% of cases (n=43).

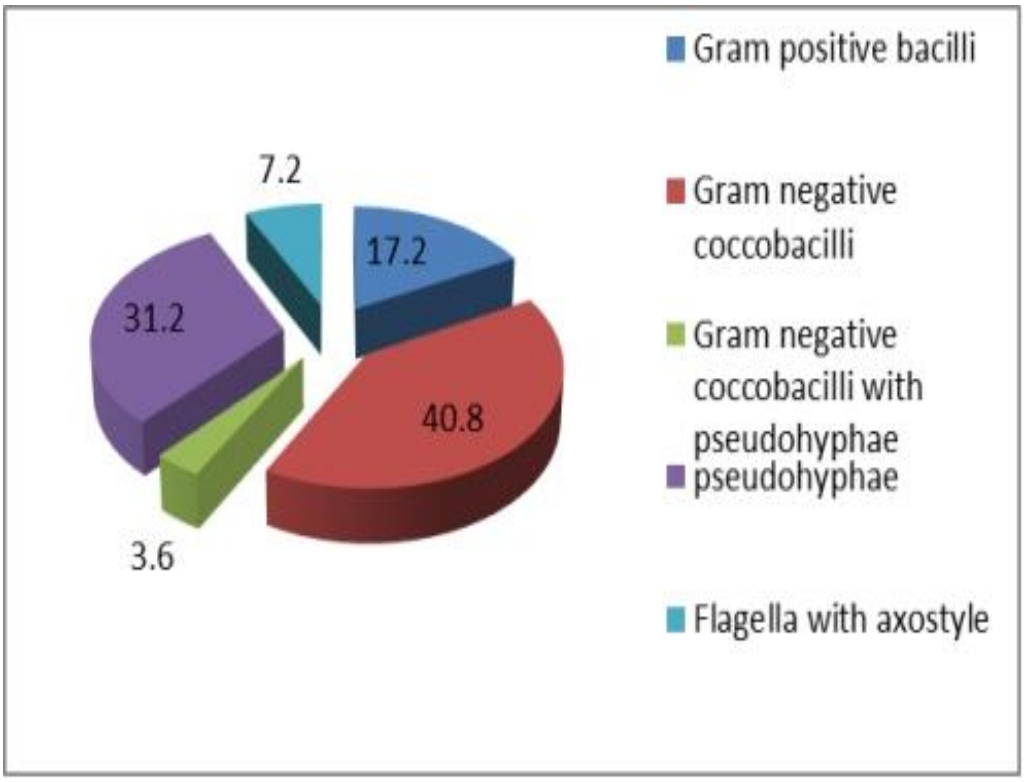


Figure 17: Distribution of women under study according to Gram Stain

6) CBNAAT: CT/NG

Table 23: Distribution of women under study according to CBNAAT**:**CT/NG

CBNAAT: CT/NG	No. of cases (n)	Percentage (%)
Positive	6	2.4
Negative	11	4.4
Not done	233	93.2
Total	250	100.0

Out of 17 cases, in which no etiology causing vulvovaginitis was determined, CBNAAT for Chlamydia trachomatis/Neisseria gonorrhoeae was done which came out to be positive in 6 cases.

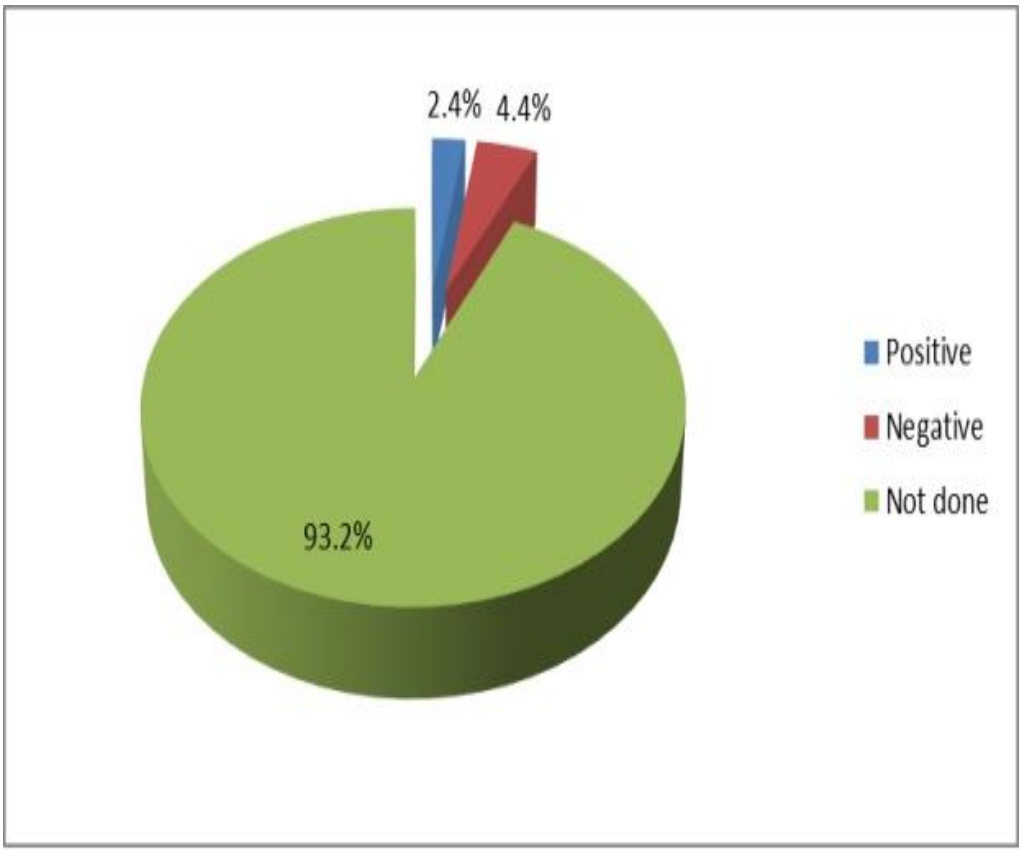


Figure 18: Distribution of women under study according to CBNAAT**:**CT/NG

Diagnosis

Table 24: Distribution of women under study according to diagnosis

DIAGNOSIS	No. of cases (n)	Percentage (%)
Bacterial Vaginosis	108	43.2
Vulvovaginal Candidiasis	87	34.8
Trichomoniasis	24	9.6
BV+VVC	5	2.0
BV+VVC+Trichomoniasis	9	3.6
Others	17	6.8
Total	250	100.0

The clinical and etiological study for vulvovaginitis revealed 43.2% incidence of bacterial vaginosis, 34.8% vulvovaginal candidiasis, 9.6% trichomoniasis, 5.6% mixed infections including BV + VVC 2.0%, BV + VVC + trichomoniasis 3.6% and 6.8% comprised other etiologies, including CT/NG and unknown causes.

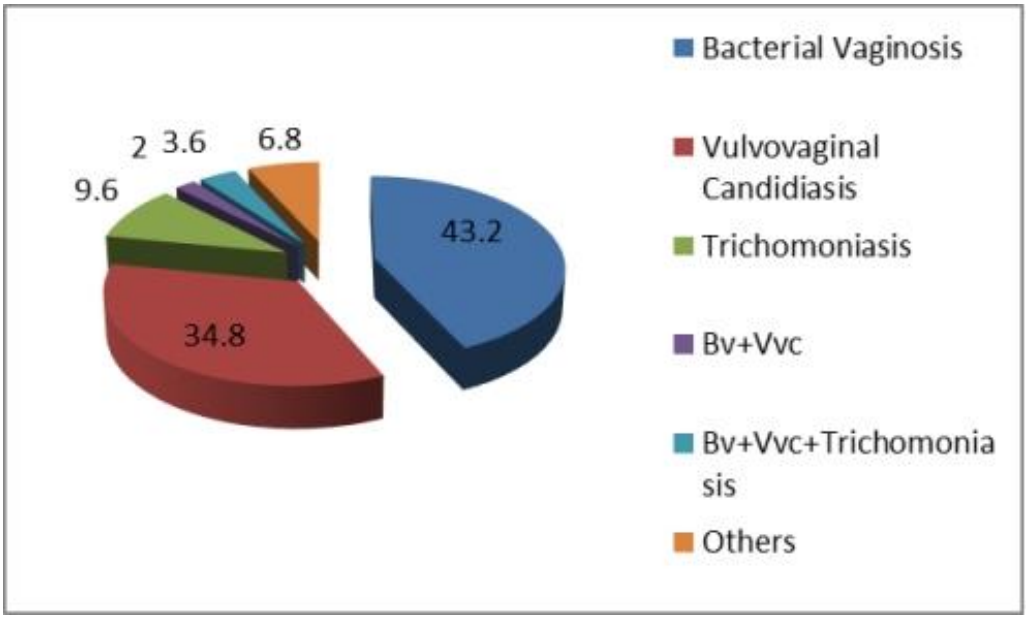


Figure 19: Distribution of women under study according to diagnosis

Correlation of Demographic Parameters and Vulvovaginitis

1. **Age group**

Table 25: Association of causes of Vulvovaginitis with age group

AGE GROUP	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
18-25	27	25.0%	12	13.8%	7	29.2%	5	35.7%	4	23.5%	55
26-35	54	50.0%	40	46.0%	11	45.8%	8	57.1%	8	47.1%	121
36-45	14	13.0%	30	34.5%	1	4.2%	1	7.1%	3	17.6%	49
46-55	10	9.3%	5	5.7%	3	12.5%	0	0.0%	2	11.8%	20
56-60	3	2.8%	0	0.0%	2	8.3%	0	0.0%	0	0.0%	5
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	6.104		22.842		9.879		4.159		0.750		
p-value	0.192		0.001		0.043		0.385		0.945		

The majority of cases of vulvovaginitis were between 26-35 years age group. 50% of cases for bacterial vaginosis, 46% for vulvovaginal candidiasis, 45.8% for trichomoniasis, 57.1% for mixed organisms, and 47.1% for other etiologies.

In bacterial vaginosis, out of 108, maximum cases 27(25%) belonged to the age group of 18-25. 14(13.0%) and 10(9.3%) belonged to the 36-45 and 46-55 age groups. Only 3 were in the 56-60 group.

In vulvovaginal candidiasis, 34.5% and 13.8% belonged to the age groups of 36-45 and 18-25 respectively and 5.7% were in the 46-55 age group. However, no case was seen in the 56-60 years age group.

In trichomoniasis, 29.2% and 12.5% belonged to the 18-25 and 46-55 age groups, 8.3% and 4.2% were in between 56-60 and 36-45 age groups.

In mixed infections, 35.7% and 7.1% belonged to the 18-25 and 36-45 age groups. However, none were from the 46-55 and 55-60 age groups.

In others, 23.5%, 17.6%, and 11.8% were from 18-25, 36-45 and 46-55 age groups. None were from the 56-60 age group.

Overall, there was a significant statistical association seen between the age group and the incidence of vulvovaginal candidiasis (p-value=0.001) and trichomoniasis (p-value=0.043), however, there was no significant statistical association between the age groups and bacterial vaginosis (p-value=0.192), mixed infections (p-value=0.385) and other causes (p-value=0.945).

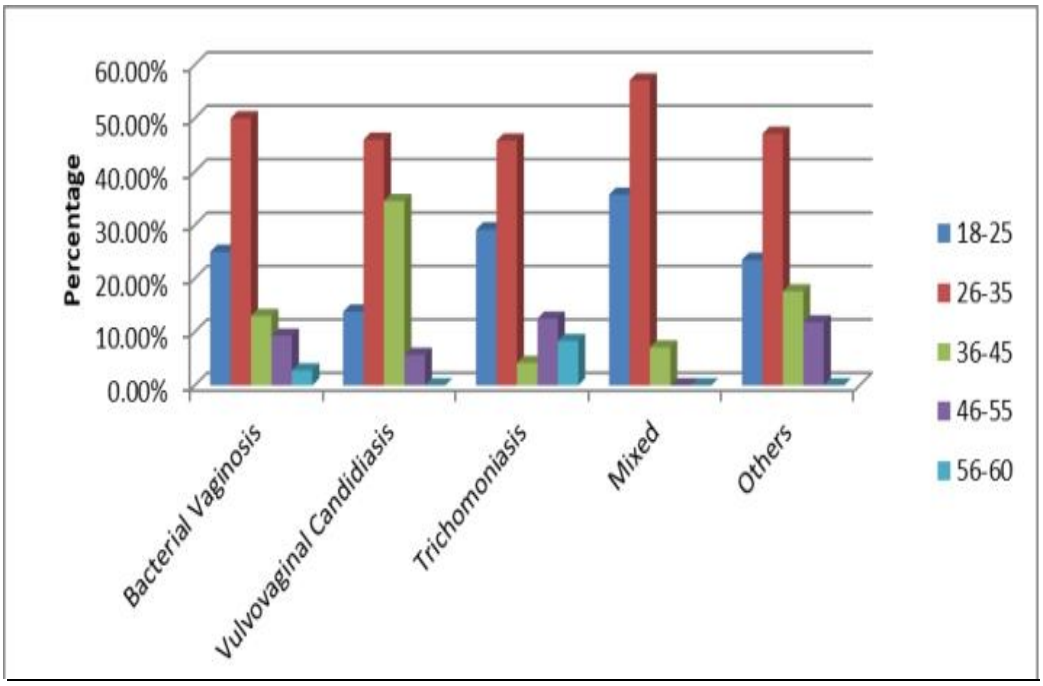


Figure 20: Association of causes of Vulvovaginitis with age group

2. Marital Status

Table26: Association of causes of Vulvovaginitis with marital status

MARITAL STATUS	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
Divorced	15	13.9%	16	18.4%	4	16.7%	2	14.3%	2	11.8%	39
Married	90	83.3%	67	77.0%	18	75.0%	12	85.7%	15	88.2%	202
Widow	3	2.8%	4	4.6%	2	8.3%	0	0.0%	0	0.0%	9
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	0.865		1.272		1.782		0.595		0.953		
p-value	0.649		0.529		0.410		0.743		0.621		

Out of 250, the maximum cases were from the married group. 90 (83.3%) of bacterial vaginosis, 67 (77%) of vulvovaginal candidiasis, 18 (75%) of trichomoniasis, 12 (85.7%) of mixed and 15 (88.2%) of others group.

The divorced group included 15 (13.9%) of bacterial vaginosis, 16 (18.4%) of vulvovaginal candidiasis, 4 (16.7%) of trichomoniasis, 2 (14.3%) of mixed and 2 (11.8%) from others group.

Widow were 3 (2.8%) from bacterial vaginosis, 4 (4.6%) and 2 (8.3%) of vulvovaginal candidiasis and trichomoniasis respectively. However, none were widows from mixed and other groups.

Overall, there was no significant statistical association between marital status and causes of vulvovaginitis.

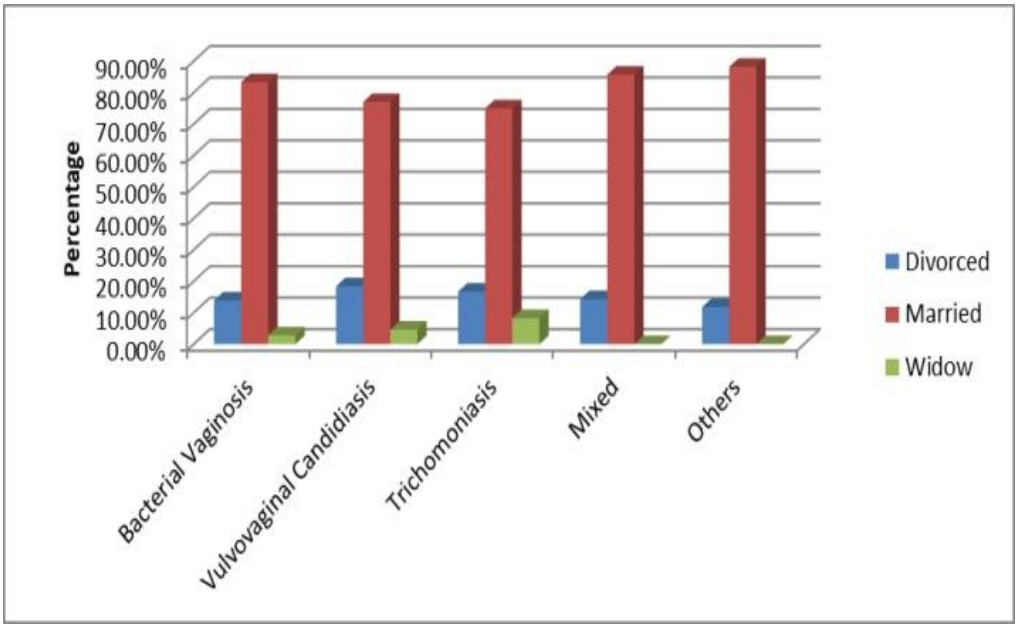


Figure 21: Association of causes of Vulvovaginitis with marital status

3. Parity

Table 27: Association of causes of Vulvovaginitis with parity

PARITY	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
Multiparous	36	33.3%	41	47.1%	11	45.8%	3	21.4%	6	35.3%	97
Nulli	32	29.6%	29	33.3%	8	33.3%	6	42.9%	3	17.6%	78
Primi	40	37.0%	17	19.5%	5	20.8%	5	35.7%	8	47.1%	75
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	4.753		7.445		1.121		1.961		2.901		
p-value	0.093		0.024		0.571		0.375		0.234		

In our study, bacterial vaginosis was commonly seen in primipara n=40 (37%) followed by multipara n=36 (33.3%) and nullipara n=32 (29.6%)

VVC was seen more in multipara n=41(47.1%) followed by nullipara n=29 (33.3%) and primipara n=17(19.5%).

Trichomoniasis was commonly seen in multiparous women n=11(45.8%) followed by nullipara n=8 (33.3%) and primipara n=5 (20.8%) respectively.

Mixed infections were commonly seen in nullipara n=6 (42.9%) followed by primi n=5 (35.7%) and multipara n=3 (21.4%).

Other causes were seen mostly in primi n=8 (47.1%), multi n=6 (35.3%) and nulli n=3 (17.6%).

Overall, there was a significant statistical association between parity and VVC (p-value=0.005), however no association was seen with BV (p-value=0.093), trichomoniasis (p-value=0.403), mixed infections (p-value=0.436) and other causes (p-value=0.305) with parity.

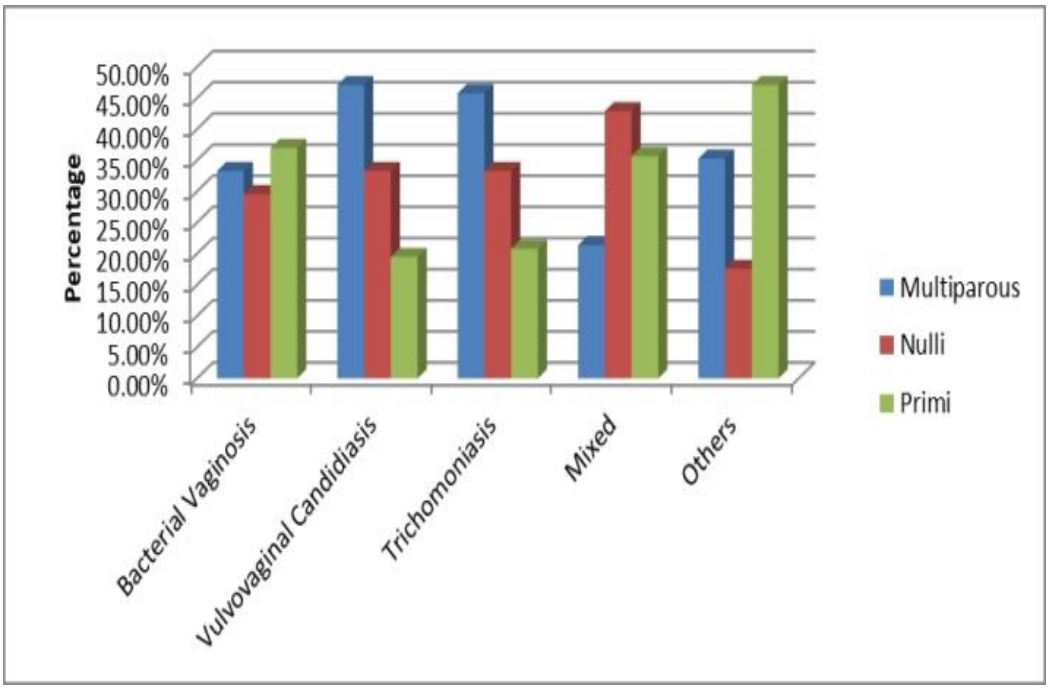


Figure 22: Association of causes of Vulvovaginitis with parity

4. Socio-Economic Status

Table 28: Association of causes of Vulvovaginitis with socio-economic status

SOCIO-ECONOMIC STATUS	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
Lower Class (below 5)	30	27.8%	21	24.1%	4	16.7%	1	7.1%	4	23.5%	60
Upper lower (5-10)	34	31.5%	35	40.2%	10	41.7%	3	21.4%	2	11.8%	44
Lower middle (11-15)	17	15.7%	18	20.7%	3	12.5%	2	14.3%	4	23.5%	30
Upper middle (16-25)	15	13.9%	7	8.0%	2	8.3%	4	28.6%	4	23.5%	84
Upper class (26-29)	12	11.1%	6	6.9%	5	20.8%	4	28.6%	3	17.6%	32
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
p-value	0.725		0.102		0.457		0.067		0.279		

Out of 108 BV cases, it was more commonly seen in upper lower 31.5%, lower class 27.8%, lower middle 15.7%, upper middle 13.9% and upper class 11.1%.

Majority of cases of VVC were commonly seen in upper lower 40.2%, in lower class 24.1%, in lower middle 20.7%, 8% in upper middle and least 6.9% in upper class.

Trichomoniasis was seen in upper lower 41.7%, upper class 20.8%, lower class 16.7%, lower middle 12.5% and 8.3% in upper middle.

Mixed infections were seen equally in the upper middle and upper class 28.6%, upper lower 21.4%, lower middle 14.3% and lower class 7.1%.

Other causes were seen in the lower class, lower middle, and upper middle 23.5%, 17.6%, and 11.8% in the upper class and upper lower class respectively.

In our study, there was no significant statistical association between BV (p-value=0.725), VVC (p-value=0.102), trichomoniasis (p-value=0.457), mixed infections (p-value=0.067) and other causes (p-value=0.279) with socio-economic status.

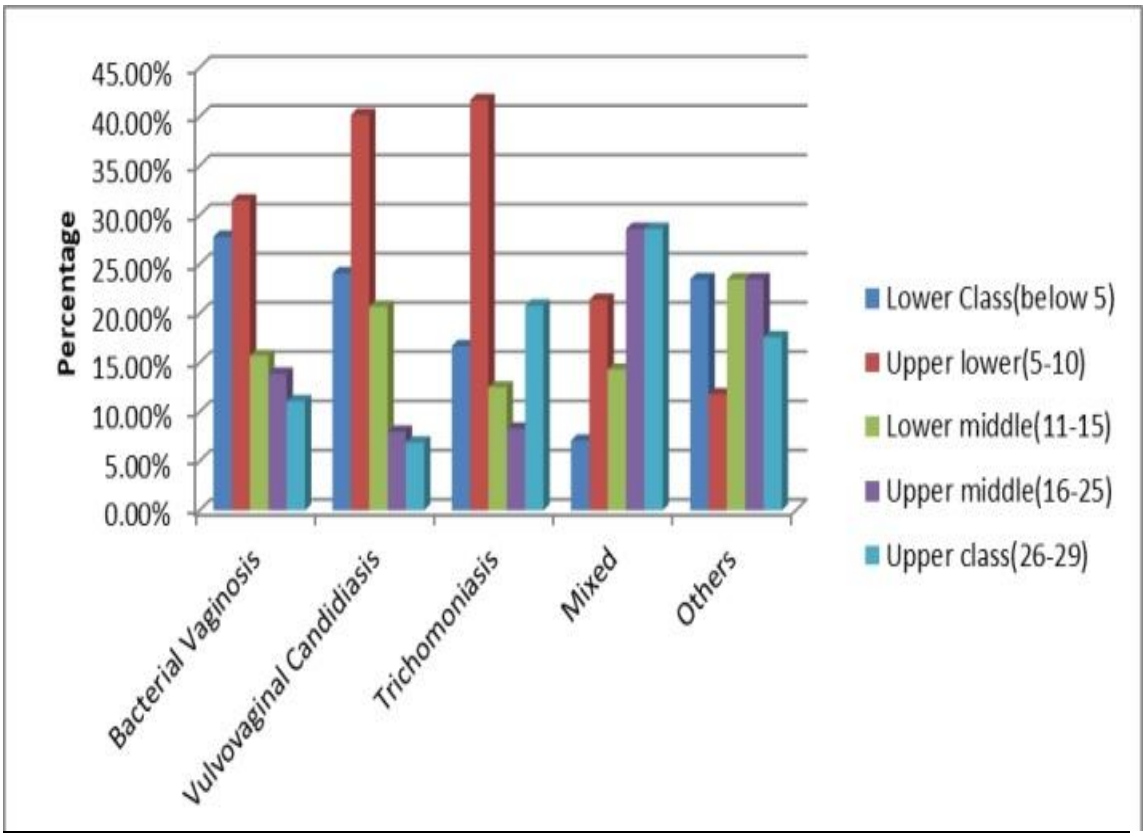


Figure 23: Association of causes of Vulvovaginitis with socio-economic status

5. Pregnancy

Table 29: Association of causes of Vulvovaginitis with pregnancy

PREGNANCY	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
No	82	75.9%	64	73.6%	21	87.5%	11	78.6%	12	70.6%	190
Yes	26	24.1%	23	26.4%	3	12.5%	3	21.4%	5	29.4%	60
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	0.001		0.434		1.925		0.054		0.293		
p-value	0.981		0.510		0.165		0.817		0.565		

Vulvovaginitis was commonly seen in non pregnant females. BV in 82 (75.9%), VVC in 64 (73.6%), trichomoniasis in 21 (87.5%), mixed etiology in 11 (78.6%) and other causes in 12 (70.6%).

In pregnant females, other causes were commonly seen 29.4% followed by VVC in 26.4%, BV in 24.1%, mixed etiology in 21.4% and trichomoniasis in 12.5%.

However, there was no significant statistical association seen between pregnancy and causes of vulvovaginitis.

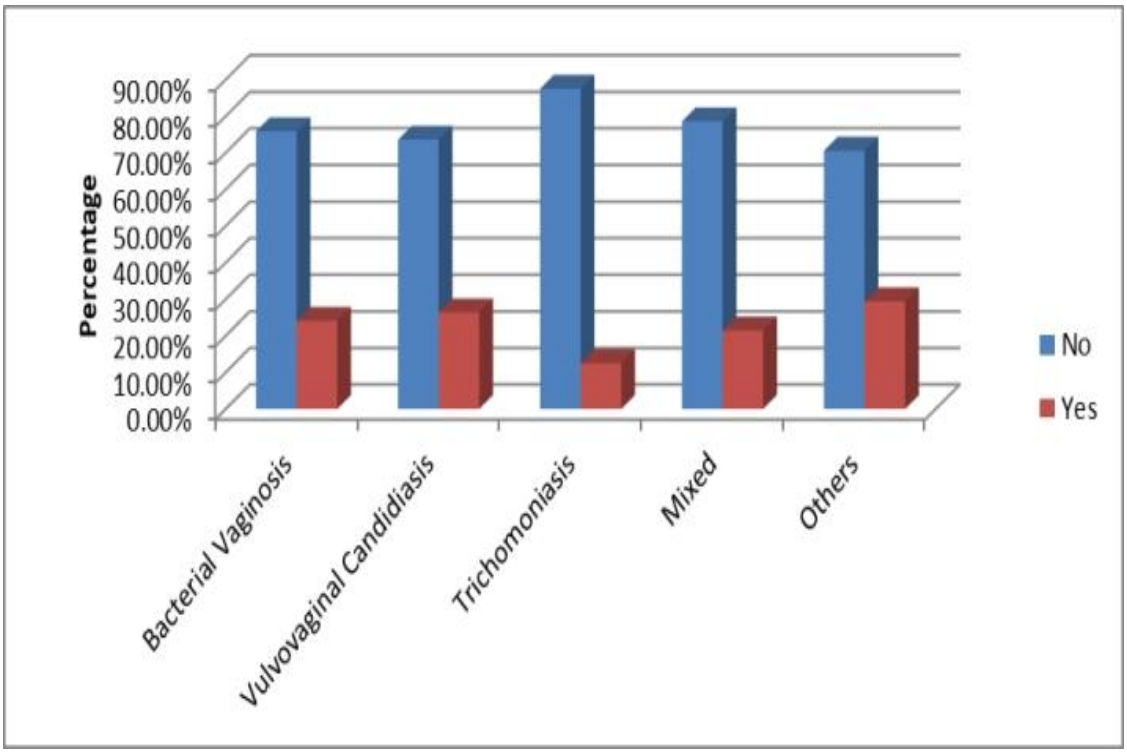


Figure 24: Association of causes of Vulvovaginitis with pregnancy

Correlation of Risk Factors and Vulvovaginitis

1. Contraception

Table 30: Association of causes of Vulvovaginitis with contraception

CONTRACEPTION	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
None	26	24.1%	29	33.3%	7	29.2%	3	21.4%	4	23.5%	69
Barrier	31	28.7%	18	20.7%	5	20.8%	4	28.6%	3	17.6%	61
Depo	8	7.4%	7	8.0%	1	4.2%	0	0.0%	1	5.9%	17
Emergency Pills	6	5.6%	1	1.1%	0	0.0%	0	0.0%	0	0.0%	7
IUCD	8	7.4%	5	5.7%	1	4.2%	0	0.0%	3	17.6%	17
OCP's	29	26.9%	27	31.0%	10	41.7%	7	50.0%	6	35.3%	79
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	9.019		4.176		2.298		4.332		4.219		
p-value	0.180		0.524		0.807		0.503		0.518		

BV was commonly seen in barrier method users 28.7% (n=31), 26.9% in OCP users (n=29), 24.1% (n=26) and 7.4% (n=8) in no method users and depo users, IUCD users, 5.6% (n=6) in emergency pill users.

VVC was commonly seen in no method users 33.3% (n=29), OCP users 31% (n=27), barrier method 20.7% (n=18), depo users 8% (n=7), IUCD users 5.7% (n=5), least in emergency pill users 1.1% (n=1)

Trichomoniasis was seen in OCP users 41.7% (n=10) followed by 29.2% (n=7) in no method user, 20.8% (n=5) in barrier method, 4.2% (n=1) in depo and IUCD users

Mixed infections were commonly seen in OCP users 50% (n=7), followed by 28.6% (n=4) and 21.4% (n=3) in the barrier and no method users. No case was seen in emergency pills, IUCD users, and depo users.

Other causes were commonly seen in OCP users 35.3% (n=6), 23.5% (n=4), and 17.6% (n=3) in no method users and barrier method users. 17.6% (n=3) and 5.9% (n=1) were seen in IUCD and depo users. No case was seen in emergency pill users.

However, there was no significant association seen between contraception and causes of vulvovaginitis.

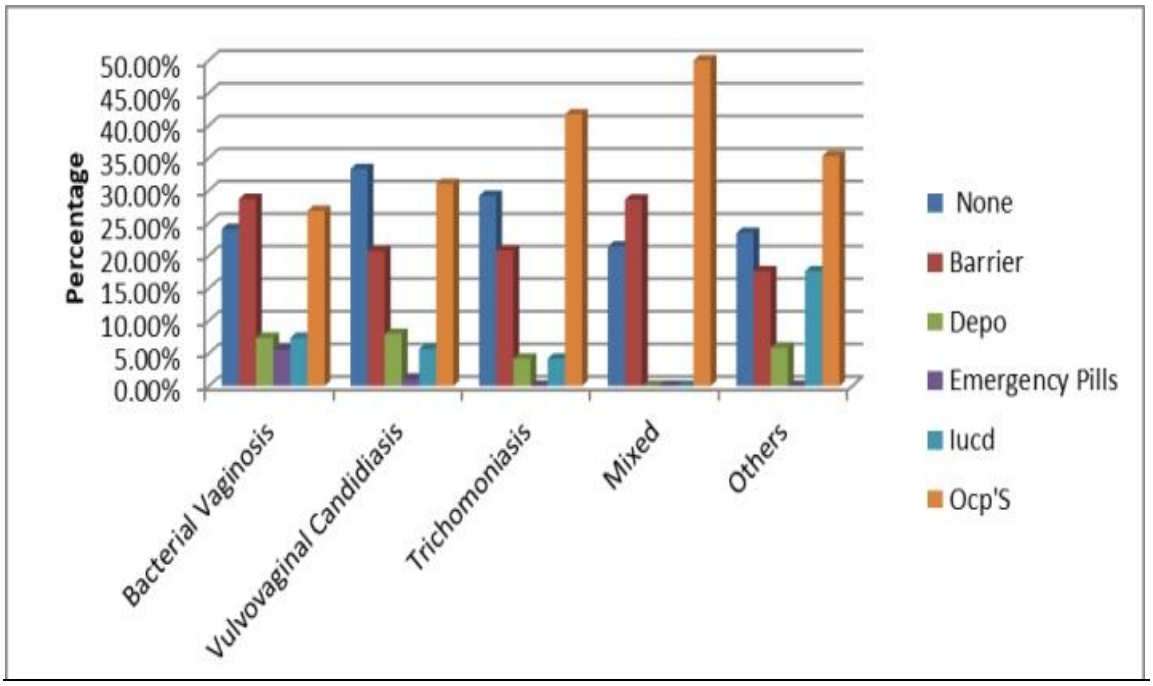


Figure 25: Association of causes of Vulvovaginitis with contraception

2. Douching

Table 31: Association of causes of Vulvovaginitis with douching

DOUCHING	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
No	33	30.6%	23	26.4%	7	29.2%	4	28.6%	5	29.4%	185
Yes	75	69.4%	64	73.6%	17	70.8%	10	71.4%	12	70.6%	65
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	0.286		0.363		0.002		0.000		0.003		
p-value	0.593		0.547		0.967		0.984		0.954		

Out of 250, vulvovaginitis was commonly seen in cases who did douching; BV in 75 (69.4%), VVC in 64 (73.6%), trichomoniasis in 17 (70.8%), mixed infections in 10 (71.4%) and other causes in 12(70.6%).

Less incidence was seen with those who didn’t do douching, 33(30.6%) in BV, 23 (26.4%) in VVC, 7 (29.2%) in trichomoniasis, 4 (28.6%) in mixed infections and 5 (29.4%) in other causes. However, there was no statistical association seen between douching and vulvovaginitis.

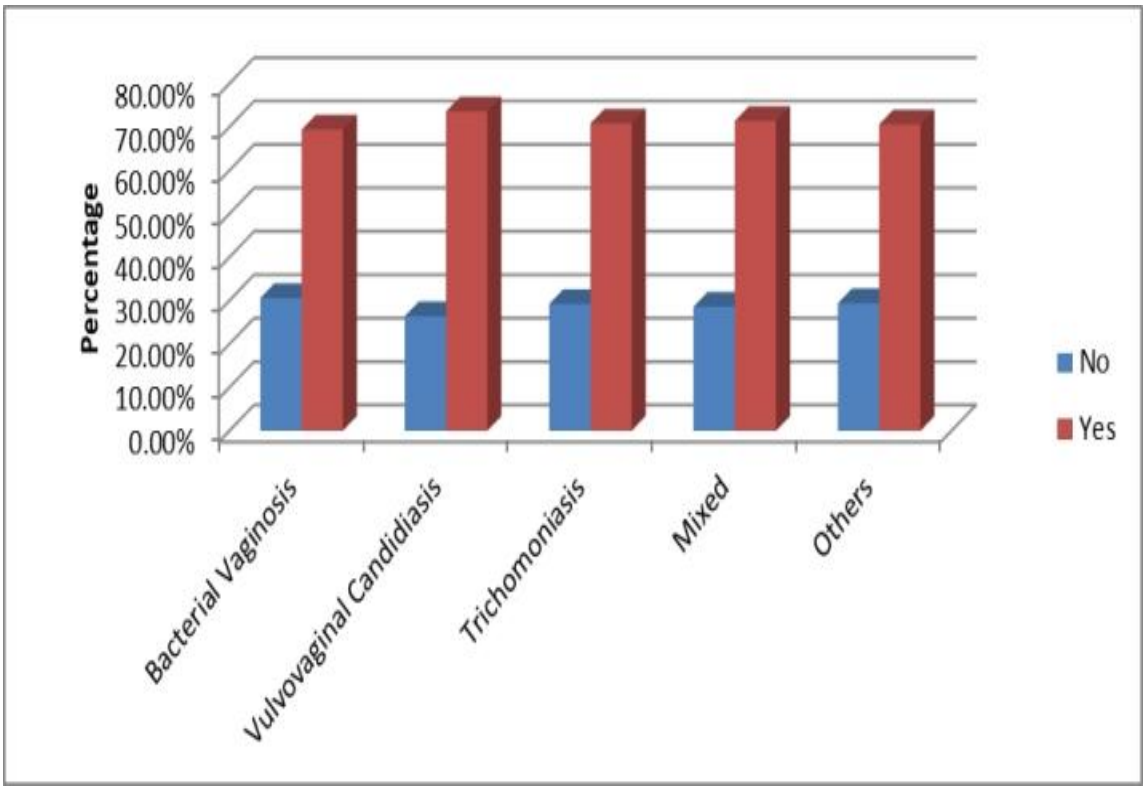


Figure 26: Association of causes of Vulvovaginitis with douching

3. Sanitary Napkin Reuse

Table 32: Association of causes of Vulvovaginitis with sanitary napkin reuse

SANITARY NAPKIN REUSE	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
No	39	36.1%	38	43.7%	10	41.7%	6	42.9%	3	17.6%	149
Yes	69	63.9%	49	56.3%	14	58.3%	8	57.1%	14	82.4%	101
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	0.421		1.572		0.120		0.125		3.321		
p-value	0.516		0.222		0.729		0.781		0.068		

In our study, 63.9% (n=69) sanitary napkin reusers had BV, 56.3% (n=49) had VVC, 58.3% (n=14) had trichomoniasis, 57.1% (n=8) had mixed infections and 82.4% (n=14) had other causes.

However, less incidence was seen in cases who didn't reuse sanitary napkins such as 36.1% (n=39) in BV, 43.7% (n=38) in VVC, 41.7% (n=10) in trichomoniasis, 42.9% (n=6) in mixed infections and 17.6% (n=3) had other causes.

Overall, no statistical association was seen with sanitary napkin reusers and vulvovaginitis

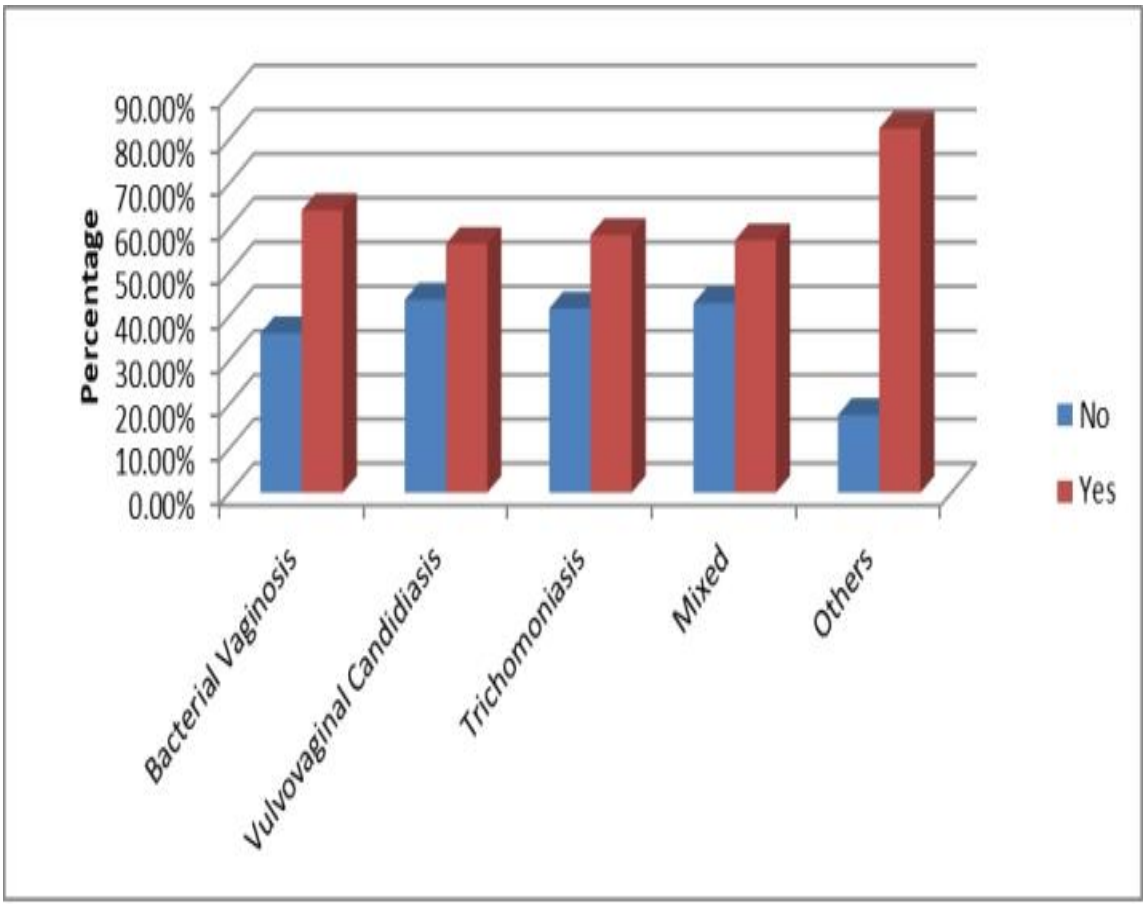


Figure 27: Association of causes of Vulvovaginitis with sanitary napkin reuse

4. Diabetes

Table 33: Association of causes of Vulvovaginitis with diabetes

DIABETES	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
No	73	67.6%	4	4.6%	14	58.3%	5	35.7%	8	47.1%	104
Yes	35	32.4%	83	95.4%	10	41.7%	9	64.3%	9	52.9%	146
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
p-value	0.001		0.001		0.080		0.646		0.636		

In diabetics, 32.4% had BV, 95.4% had VVC, 41.7% had trichomoniasis, 64.3% had mixed infections and 52.9% had other causes of vulvovaginitis.

In Non diabetics, 67.6% had BV, 4.6% had VVC, 58.3% had trichomoniasis, 35.7% had mixed infections and 47.1% showed other causes of vulvovaginitis.

Overall, there was significant statistical difference seen between diabetes with BV (p-value=0.001) and VVC (p-value=0.001), However, no statistical association was seen with trichomoniasis (p-value=0.080), mixed infections (p-value=0.646) and other causes (p-value=0.636).

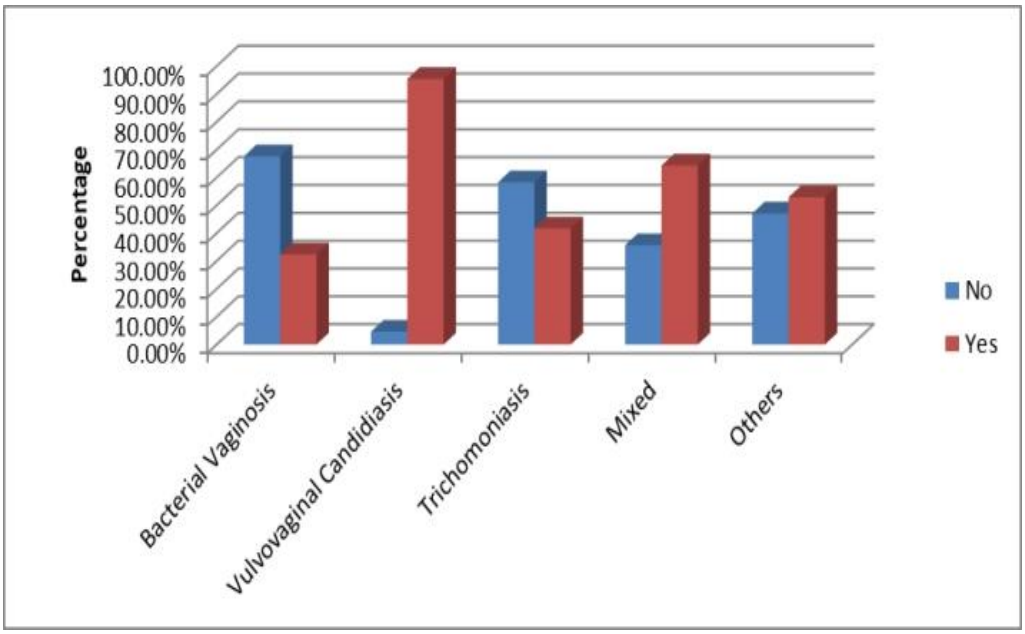


Figure 28: Association of causes of Vulvovaginitis with diabetes

5. Number of Sexual Partners

Table 34: Association of causes of Vulvovaginitis with number of sexual partners

NUMBER OF SEXUAL PARTNERS	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
Multiple	16	14.8%	81	93.1%	22	91.7%	8	57.1%	9	52.9%	126
Single	92	85.2%	6	6.9%	2	8.3%	6	42.9%	8	47.1%	124
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	120.109		80.576		14.863		0.045		0.016		
p-value	0.001		0.001		0.001		0.832		0.900		

In our study, BV was commonly seen in patients with single sexual partner 85.2%, more incidence was seen in cases with multiple sexual partners (>=2) in VVC 93.1% and trichomoniasis 91.7%, mixed infections and other causes were seen in 57.1% and 52.9%.

BV was seen in patients with multiple sexual partners in 14.8%. In single sexual partners, VVC and trichomoniasis were seen in 6.9% and 8.3%, and mixed infections and other causes were seen in 42.9% and 47.1% respectively.

Overall, there was a significant statistical association seen between the number of sexual partners and BV (p-value=0.001), VVC (p-value=0.001), and trichomoniasis (p-value=0.001).

No association was seen with mixed infections (p-value=0.975) and others (p-value=0.431)

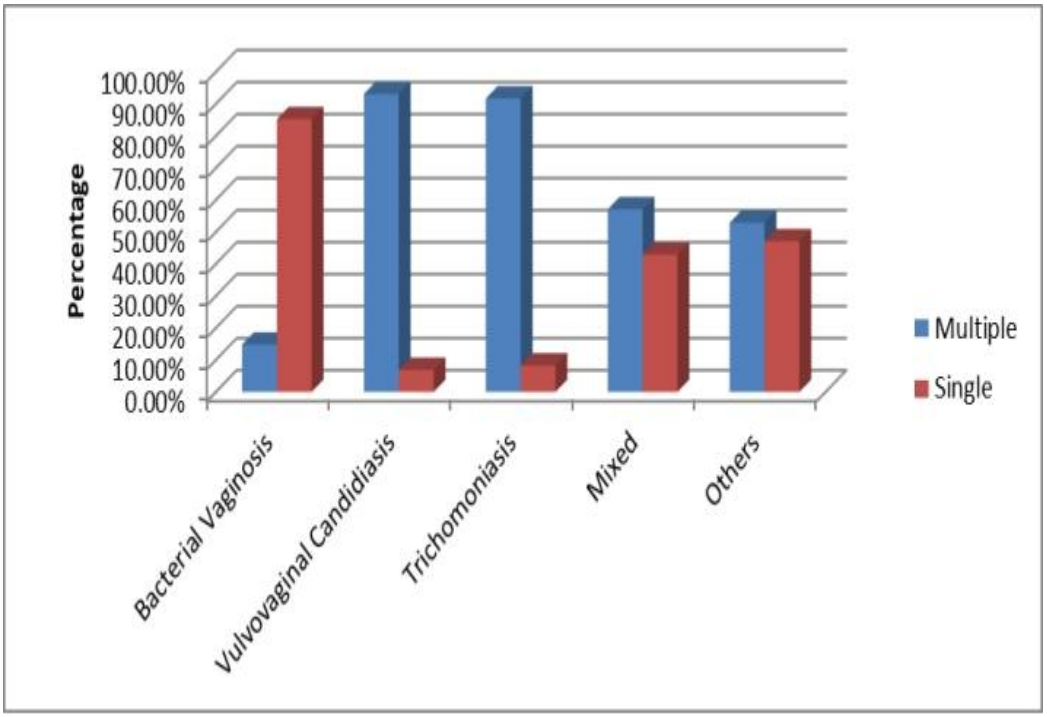


Figure 29: Association of causes of Vulvovaginitis with the number of sexual partners

Correlation of Characteristics of Vaginal Discharge and Symptoms With Vulvovaginitis

1. Colour Of Discharge

Table 35: Association of causes of Vulvovaginitis with the colour of discharge

COLOUR	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
Altered Colour	10	9.3%	1	1.1%	2	8.3%	3	21.4%	3	17.6%	19
Blood Stained	3	2.8%	3	3.4%	2	8.3%	3	21.4%	4	23.5%	15
Curdy White	2	1.9%	78	89.7%	0	0.0%	1	7.1%	1	5.9%	82
Greenish Yellow	0	0.0%	2	2.3%	19	79.2%	1	7.1%	4	23.5%	26
Greyish White	93	86.1%	3	3.4%	1	4.2%	6	42.9%	5	29.4%	108
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	160.322		197.487		139.047		12.744		19.620		
p-value	0.001		0.001		0.001		0.013		0.001		

In our study, BV showed greyish-white discharge in 86.1% (n=93) followed by altered colour in 9.3% (n=10), 2.8% (n=3), and 1.9% (n=2) had blood stained and curdy white discharge. None had a greenish-yellow discharge.

VVC showed curdy white discharge in 89.7% (n=78), altered colour in 1.1% (n=1). 3.4% (n=3), 2.3% (n=2) and 3.4% (n=3) had blood-stained, greenish yellow and greyish-white discharge.

Trichomoniasis showed greenish yellow discharge79.2% (n=19). 8.3% (n=2) had altered colour and blood-stained discharge. 4.2% (n=1) had greyish white discharge. None had a curdy white discharge.

Mixed infections showed 21.4% altered discharge and blood-stained discharge (n=3), greenish yellow and curdy white in 7.1% (n=1) and greyish white in 42.9% (n=6).

Other causes had altered discharge 17.6% (n=3), blood stained and greenish yellow 23.5% (n=4), and greyish white 29.4% (n=5), 5.9% (n=1) had curdy white discharge.

Overall, there was significant association seen between causes of vulvovaginitis with the colour of discharge.

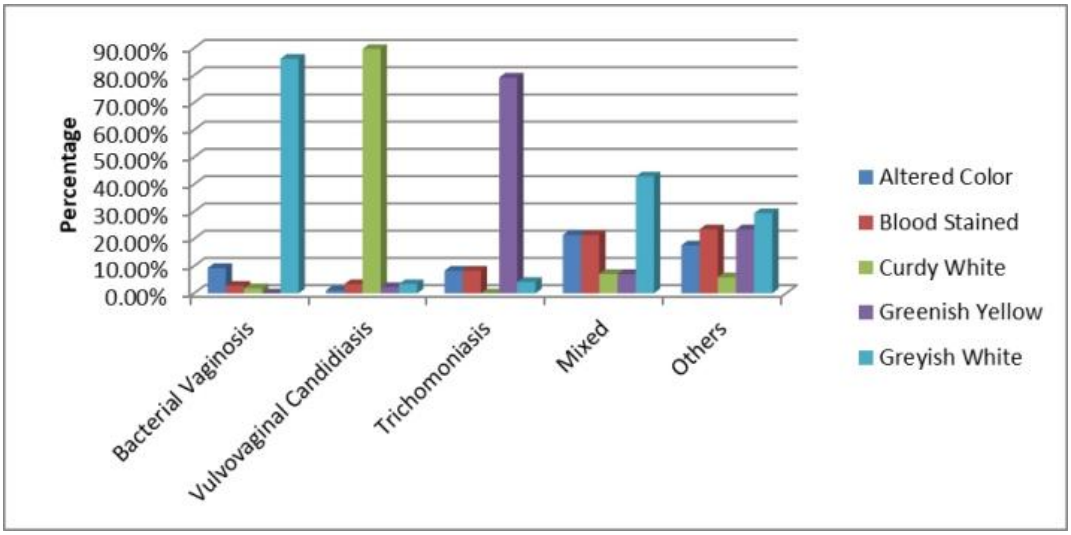


Figure 30: Association of causes of Vulvovaginitis with colour of discharge

2. Consistency of Discharge

Table 36: Association of causes of Vulvovaginitis with consistency of discharge

CONSISTENCY	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
Thick	18	16.7%	78	89.7%	13	54.2%	6	42.9%	4	23.5%	119
Thin	90	83.3%	9	10.3%	11	45.8%	8	57.1%	13	76.5%	131
Total	108	100.0 %	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	72.944		94.618		0.459		0.134		4.237		
p-value	0.001		0.001		0.498		0.788		0.046		

In our study, vaginal discharge was thick in VVC 89.7%, 54.2% trichomoniasis, 42.9% mixed infections, 16.7% bacterial vaginosis, and 23.5% other causes. However, it was thin in 83.3% of bacterial vaginosis, 10.3% of VVC, 45.8% of trichomoniasis, 57.1% of mixed infections, and 76.5% of other causes.

Overall, there was a significant statistical association between consistency of vaginal discharge and BV (p-value=0.001), VVC (p-value=0.001) and other causes (p-value=0.046), but not in case of trichomoniasis (p-value=0.498) and mixed infections (p-value=0.788)

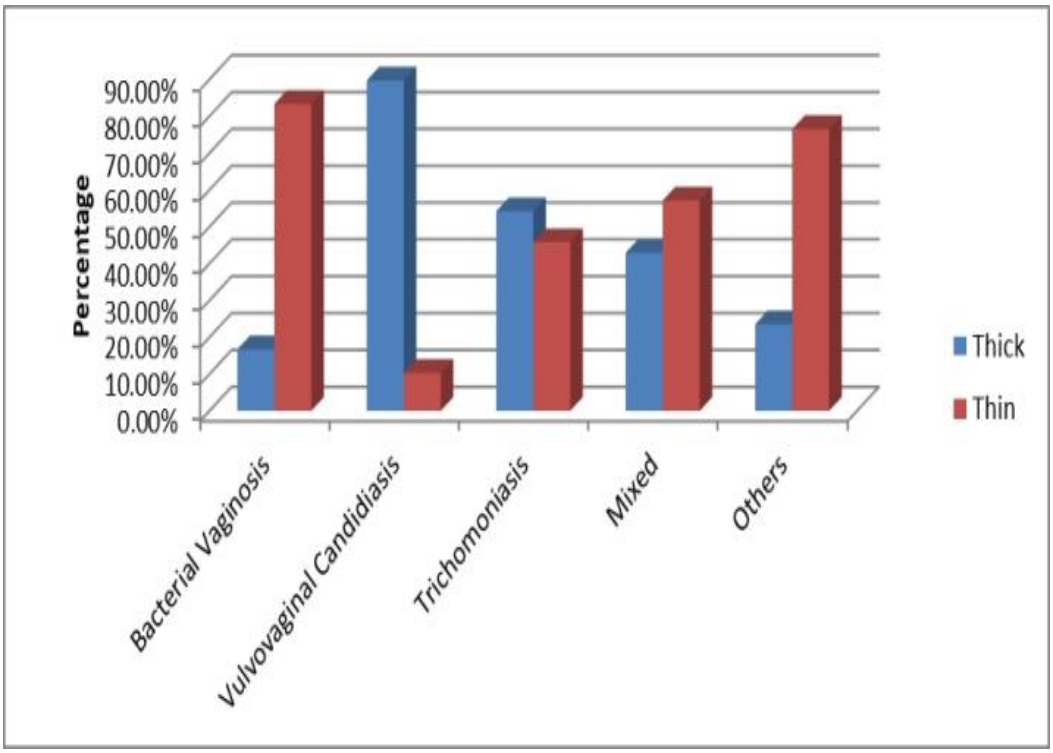


Figure 31: Association of causes of Vulvovaginitis with consistency of discharge

3. Amount Of Discharge

Table 37: Association of causes of Vulvovaginitis with the amount of discharge

AMOUNT	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
Profuse	27	25.0%	22	25.3%	4	16.7%	2	14.3%	3	17.6%	58
Scanty	81	75.0%	65	74.7%	20	83.3%	12	85.7%	14	82.4%	192
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	0.346		0.326		0.636		0.661		0.316		
p-value	0.650		0.637		0.611		0.531		0.769		

In our study, the majority of cases had scanty discharge, BV had scanty discharge in 75% (n=81), VVC in 74.7% (n=65), trichomoniasis in 83.3% (n=20), mixed infections in 85.7% (n=12) and other causes in 82.4% (n=14).
Profuse discharge was seen in 25% (n=27) in BV, 25.3% in VVC (n=22), 16.7% in trichomoniasis (n=4), mixed infections in 14.3% (n=2) and other causes in 17.6% (n=3).

However, no significant association was seen between the amount of discharge and the causes of vulvovaginitis.

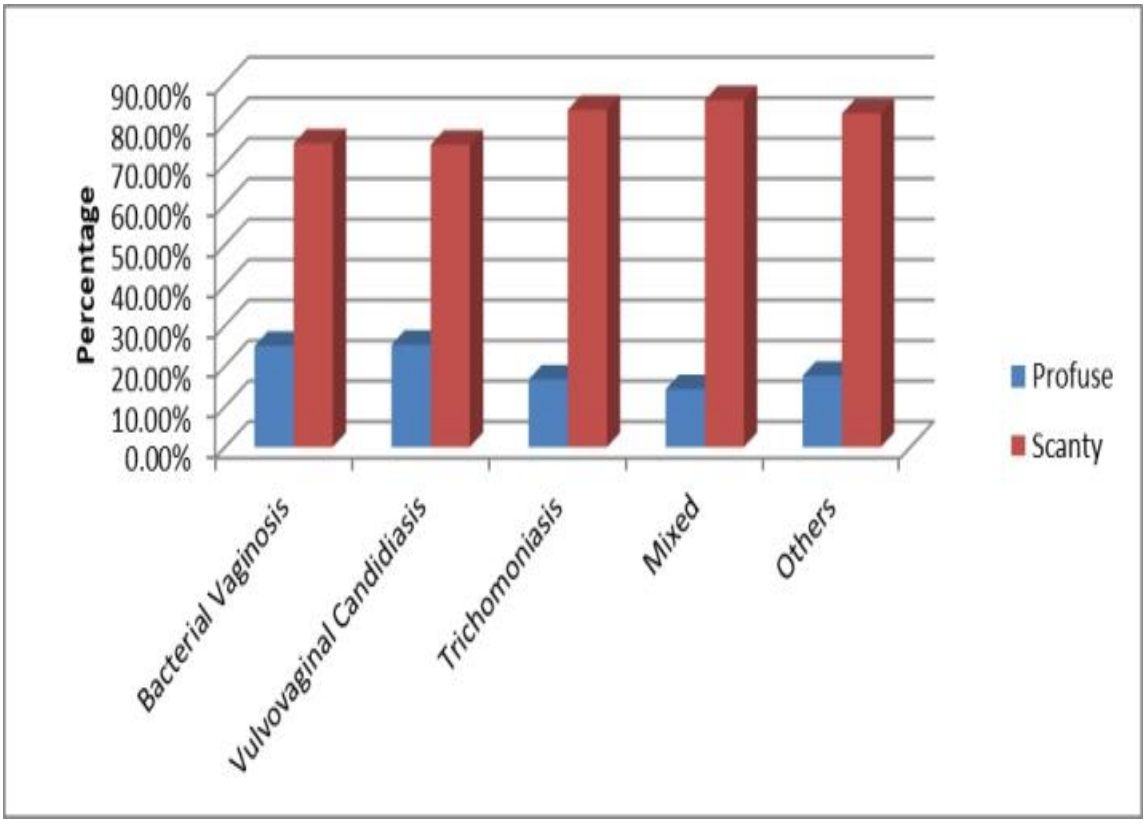


Figure 32: Association of causes of Vulvovaginitis with the amount of discharge

4. Vulval Itching

Table 38: Association of causes of Vulvovaginitis with vulval itching

ITCHING	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
No	103	95.4%	17	19.5%	5	20.8%	9	64.3%	12	70.6%	146
Yes	5	4.6%	70	80.5%	19	79.2%	5	35.7%	5	29.4%	104
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	106.974		82.940		15.422		0.211		1.115		
p-value	0.001		0.001		0.001		0.646		0.322		

Vulval itching was seen mostly in VVC 80.5% (n=70), and trichomoniasis 79.2% (n=19). However, in BV only 4.6% (n=5), mixed infections 35.7% (n=5) and other causes 29.4% (n=5) had itching.

Vulval itching was not seen in BV 95.4% (n=103), VVC 19.5% (n=17), trichomoniasis 20.8% (n=5), mixed infections 64.3% (n=9) and other causes 70.6% (n=12).

However, there was a significant association of vulval itching and bacterial vaginosis (p-value=0.001), VVC (p-value=0.001), trichomoniasis (p-value=0.001).

No association was seen with mixed infections (p-value=0.646) and other causes (p-value=0.322).

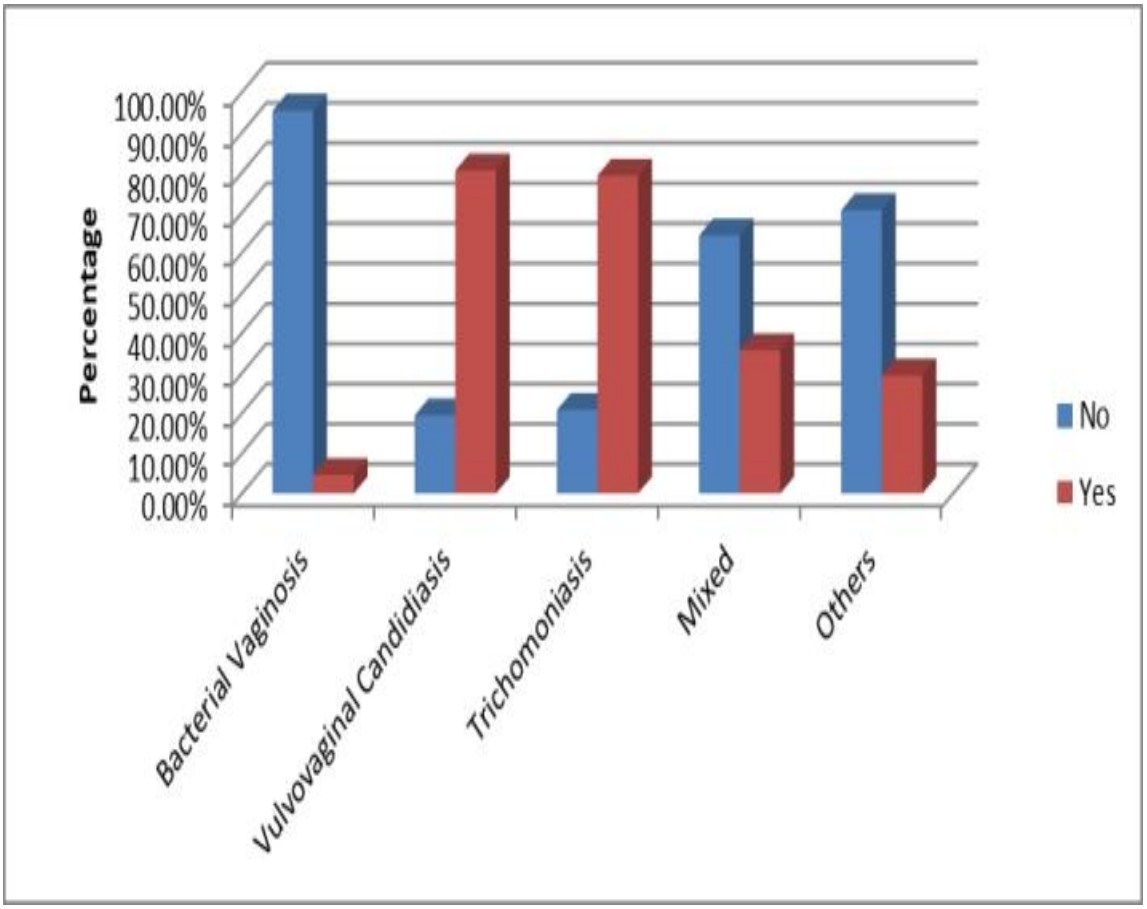


Figure 33: Association of causes of Vulvovaginitis with vulval itching

5. Malodor Of Discharge

Table 39: Association of causes of Vulvovaginitis with Malodor

MALODOR	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
No	21	19.4%	47	54.0%	6	25.0%	5	35.7%	12	70.6%	91
Yes	87	80.6%	40	46.0%	18	75.0%	9	64.3%	5	29.4%	159
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	23.612		17.901		1.490		0.003		9.209		
p-value	0.001		0.001		0.222		0.956		0.002		

Malodorous discharge was observed in 80.6% (n=87) in BV, 46% (n=40) in VVC, 75% (n=18) in trichomoniasis, 64.3% (n=9) in mixed infections and 29.4% (n=5) in other causes.

However, no Malodor was observed in 19.4% (n=21) in BV, 54% (n=47) in VVC, 25% (n=6) in trichomoniasis, 35.7% (n=5) in mixed infections and 70.6% (n=12) in other causes.

Overall, there was a significant statistical association between the odor of discharge and BV (p-value=0.001), VVC (p-value=0.001), and other causes (p-value=0.002).

No association was seen with trichomoniasis (p-value=0.222) and mixed infections (p-value=0.956) with odor of discharge.

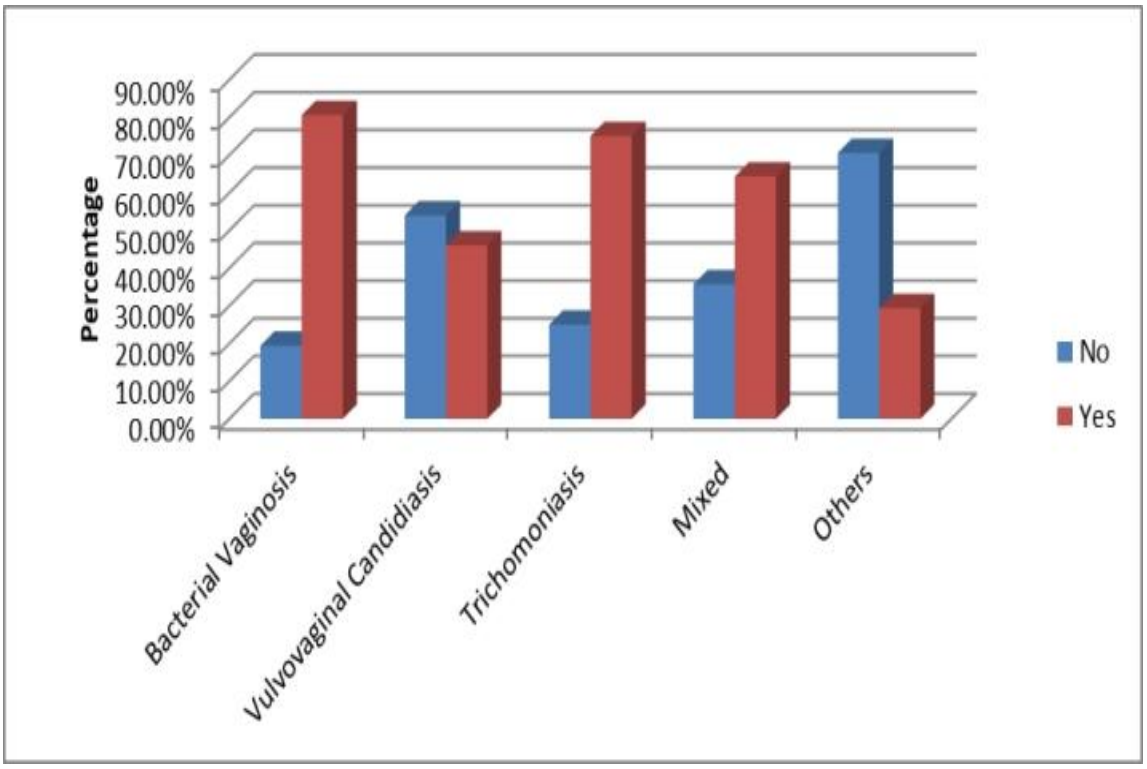


Figure 34: Association of causes of Vulvovaginitis with malodor

Correlation of Clinical Examination and Vulvovaginitis

1. **LOCAL EXAMINATION**

Table 40: Association of causes of Vulvovaginitis with local examination

LOCAL EXAMINATION	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
Excoriation	3	2.8%	1	1.1%	14	58.3%	3	21.4%	5	29.4%	26
Normal	85	78.7%	11	12.6%	1	4.2%	2	14.3%	1	5.9%	100
Vulval Atrophy	2	1.9%	0	0.0%	0	0.0%	0	0.0%	2	11.8%	4
Vulval Swelling	8	7.4%	6	6.9%	8	33.3%	2	14.3%	5	29.4%	29
Vulvitis	10	9.3%	69	79.3%	1	4.2%	7	50.0%	4	23.5%	91
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	123.264		108.122		85.988		5.269		29.245		
p-value	0.001		0.001		0.001		0.261		0.001		

In our study, BV had normal vulval findings in 78.7%, vulvitis in 9.3%, vulval swelling in 7.4%, vulval excoriation, and vulval atrophy in 2.8% and 1.9% respectively.

In VVC, 79.3% had vulvitis, normal vulva in 12.6%, vulval swelling in 6.9%, excoriation in 1.1% and none had vulval atrophy.

In trichomoniasis, 58.3% had excoriation, 33.3% had vulval swelling, 4.2% had vulvitis and normal vulva. None had vulval atrophy.

In mixed infections and other causes, 50% and 23.5% had vulvitis. 14.3% and 29.4% had vulval swelling, normal vulva in 14.3% and 5.9%, excoriation in 21.4% and 29.4%, vulval atrophy in none and 11.8% respectively.

Overall, there was significant association between local examination and causes of vulvovaginitis (p-value=0.001) except mixed infections (p-value=0.261)

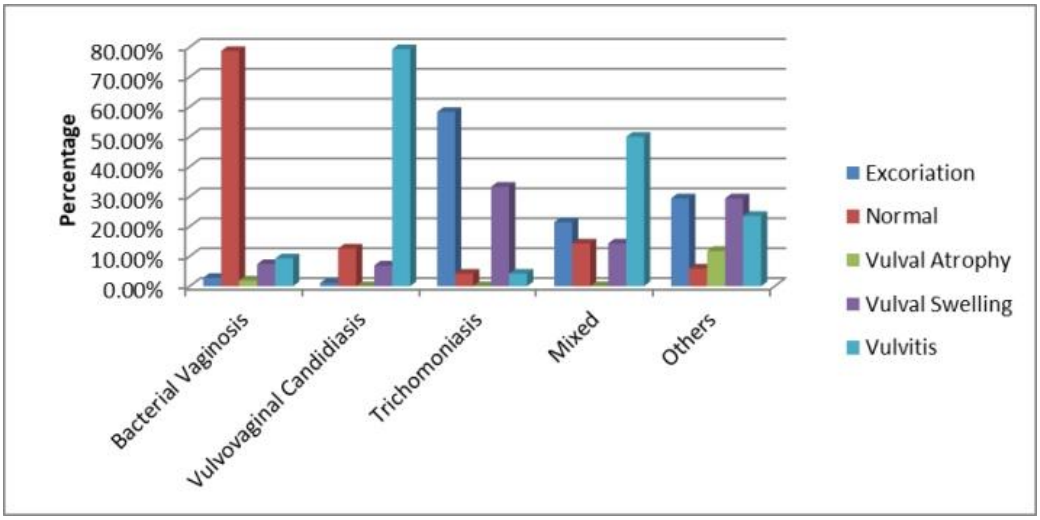


Figure 35: Association of causes of Vulvovaginitis with local examination

2. Per Speculum Examination

Table 41: Association of causes of Vulvovaginitis with per speculum

PER SPECULUM	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
Altered Discharge	17	15.7%	4	4.6%	1	4.2%	9	64.3%	8	41.7%	39
Blood Stained	2	1.9%	2	2.3%	1	4.2%	2	14.3%	2	11.8%	9
Curdy white Discharge	1	0.9%	73	83.9%	0	0.0%	0	0.0%	2	11.8%	76
Greenish Yellow	0	0.0%	0	0.0%	19	79.2%	0	0.0%	2	11.8%	21
Greyish White	77	71.3%	0	0.0%	0	0.0%	1	7.1%	2	11.8%	80
Normal	11	10.2%	8	9.2%	3	12.5%	2	14.3%	1	5.9%	25
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	163.685		190.647		177.590		36.128		19.922		
p-value	0.001		0.001		0.001		0.001		0.001		

In BV, 71.3% had greyish-white discharge and 15.7% had altered discharge, 10.2% had normal discharge, 1.9% and 0.9% had blood stained and curdy white discharge. None had greenish yellow discharge.

In VVC, 83.9% had curdy white discharge, 9.2% had normal discharge, 4.6% and 2.3% had altered and blood stained discharge. None had greenish yellow and greyish white discharge.

In trichomoniasis, 79.2% cases had greenish yellow discharge, 12.5% had normal, 4.2% had altered discharge and blood stained. None had curdy white and greyish white discharge.

In mixed infections, 64.3% had altered discharge, 14.3% had normal discharge and blood stained discharge and 7.1% had greyish white discharge. None had greenish yellow and curdy white discharge.

In other causes, 41.7% had altered discharge, 11.8% had blood stained, curdy white, greenish yellow and greyish white discharge. 5.9% had normal physiological discharge.

Overall, there was significant statistical association between colour of discharge and causes of vulvovaginitis in BV, VVC, trichomoniasis, mixed infections and others (p-value=0.001).

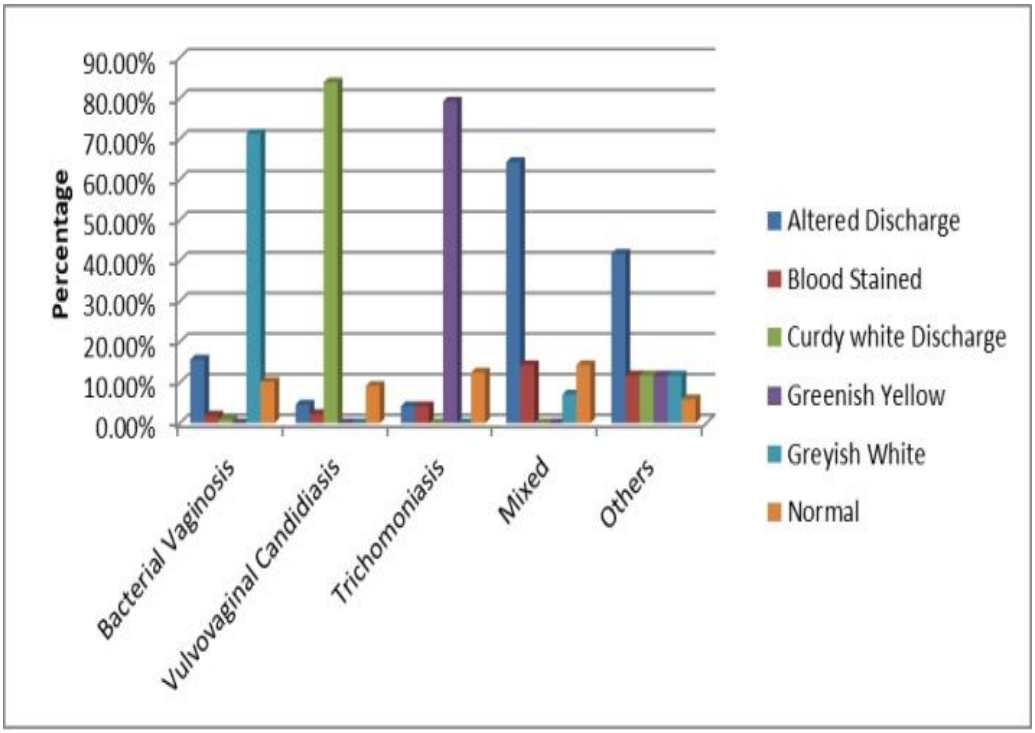


Figure 36: Association of causes of Vulvovaginitis with per speculum

3. Vaginal pH

Table 42: Association of causes of Vulvovaginitis with vaginal pH

VAGINAL pH	DIAGNOSIS										Total
	Bacterial Vaginosis		Vulvovaginal Candidiasis		Trichomoniasis		Mixed		Others		
> 4.5	93	86.1%	13	14.9%	19	79.2%	10	71.4%	12	70.6%	147
< 4.5	15	13.9%	74	85.1%	5	20.8%	4	28.6%	5	29.4%	103
Total	108	100.0%	87	100.0%	24	100.0%	14	100.0%	17	100.0%	250
Chi-square value	58.544		105.946		4.546		0.976		1.046		
p-value	0.001		0.001		0.001		0.409		0.445		

In our study, vaginal pH >4.5 in BV 86.1%, VVC 14.9%, Trichomoniasis 79.2%, mixed infections 71.4%, and other causes 70.6%.

Vaginal pH <4.5 in BV 13.9%, VVC 85.1%, trichomoniasis 20.8 %, mixed infections 28.6% and other causes 29.4%.

In our study, there was a significant statistical association between BV, VVC and trichomoniasis and vaginal pH. However, there was no association between mixed infections and other causes with vaginal pH.

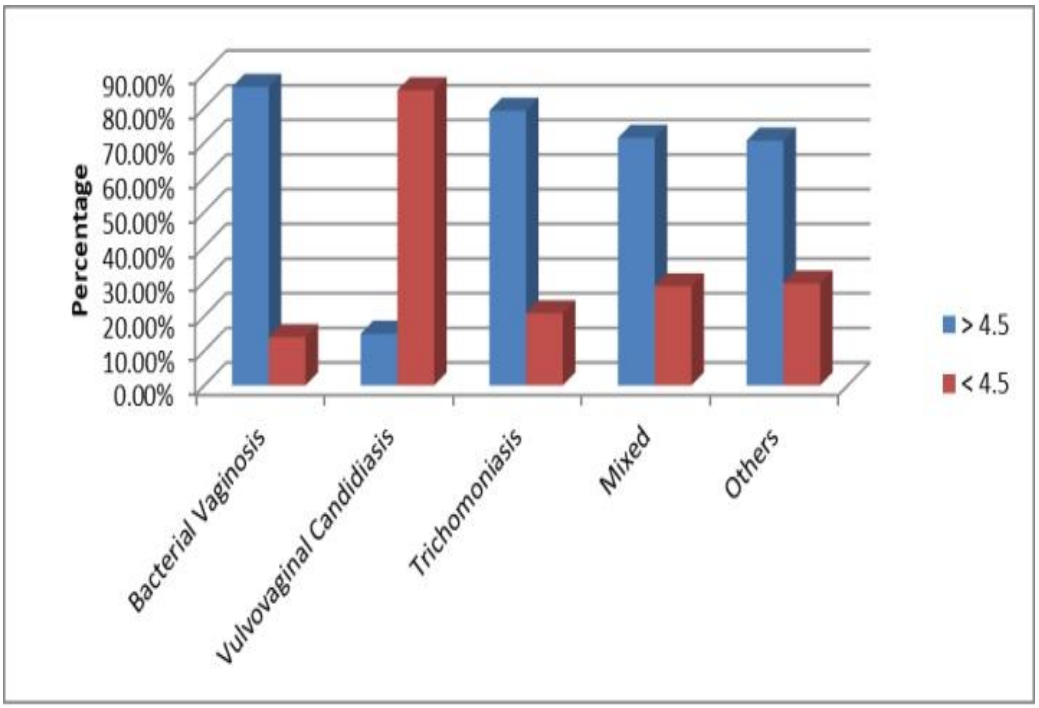


Figure 37: Association of causes of Vulvovaginitis with vaginal pH

DISCUSSION

Although much work has been done in the field of vulvovaginitis, however, its impact on patient outcomes, focusing on its various etiologies including the distinct clinical presentation of causes of infectious vaginitis needs to be investigated. Vulvovaginitis can significantly affect the quality of life, and effective management of vaginitis hinges upon accurate diagnosis and patient education. By exploring the epidemiological trends, risk factors and clinical presentations, it will highlight the importance of accurate diagnosis and comprehensive preventive strategies in order to alleviate its broader implications.

This study was conducted to analyse the clinical and etiological factors leading to vulvovaginitis in a diverse patient population and its correlation with different clinical outcomes.

- In our study, we observed that the mean age amongst the study population was 32.92 years. Similar results were observed by Shankari P in 2022, in which the majority of the women presenting with vulvovaginitis belonged to the age group of 31-40 years.[32] Various studies show a significant prevalence of vulvovaginitis in women aged 26-30 years, emphasizing that this demographic is important, as it includes sexually active women who have a high rate of exposure to genital infections. Xianling Zeng et al. also concluded in their study in 2018 that women <40 years were more susceptible to vulvovaginitis.[33] Study by Jayalaxmi Mahur also showed the highest incidence of vulvovaginitis 63.2% in 21-30 years and 27.2% in the 31-40 years age group.[5]
- The present study showed an increased prevalence of vulvovaginitis amongst married women as compared to divorced and widows. A study by Addis Aklilu concluded vulvovaginitis was commonly seen in married women.[34]

  The study by Takao also found that vulvovaginitis predominantly

affects married women.[35] It can be explained as the increased sexual activity which might be commonly seen among married women disrupts the delicate balance of healthy vaginal microbiota.

- Our study concluded that vulvovaginitis is predominantly observed in multiparous women. The Study conducted by Jemal Yasin showed that 67.8% of married women had vulvovaginitis. Similar findings regarding the predominance of vulvovaginitis in multiparous women were also observed in a study by Chembetei Kavitha Kiran.[13] This is in contrast to a Study conducted by Kiran Shazadi in 2021 which concluded no significant statistical difference between parity and vulvovaginitis.[36] It can be explained that hormonal fluctuations associated with pregnancy and childbirth can significantly contribute to the onset of vulvovaginitis.
- Our study had a higher incidence of vulvovaginitis among non-pregnant women. Concordant findings were also noted in a Study conducted by Jemal Yasin.[25] Although vulvovaginitis in pregnancy may originate from a complex interplay between the causative agent and the maternal immune response, which might trigger an inflammatory response and subsequent adverse materno-fetal outcomes in the form of preterm labour, preterm premature rupture of membranes, prematurity and so on.
- In our study, vulvovaginitis was commonly seen in the upper-lower class. A study done by Nishi also stated a majority of the patients presenting with vulvovaginitis belonged to a lower socioeconomic class or below (class 2 or below).[4] A Study by Nagina Altaf also emphasized that vulvovaginitis exhibits a higher prevalence among individuals from lower socioeconomic status.[37] This can be explained because of limited access to healthcare services, crowded living conditions, and inadequate hygiene practices with higher levels of stress which can

predispose lower-class strata to vulvovaginitis and associated infections.

- Association of demographic variables with vulvovaginitis was also seen in a study by Prasanna Dahal, which concluded age group, marital status, and socioeconomic status had significant statistical association with infectious vaginitis.[38] similar to our study.
- The present study showed an increased prevalence of vulvovaginitis amongst cases that did douching and reused sanitary napkins. This has been observed in a study by Rasmin Yildrim in 2020, which showed women who did douching because of personal hygiene, religious reasons, or protection from diseases had a higher incidence of vulvovaginitis.[39] Other studies also linked an increased incidence of vulvovaginitis with douching and sanitary napkin reuse.[25] It can be due to disruption of normal vaginal microflora and alteration of natural acidic vaginal pH.
- In a study conducted by Sholey Shahinfar in 2016, showed a higher incidence of vulvovaginitis among females with no contraceptive method followed by females with condom use. {40} This was in contrast to the study conducted by Huzaima Mujuzi in 2023, showing an elevated risk of developing vulvovaginitis in women who took oral contraceptive pills, similarly as concluded in the present study.[6] In a parallel study by Felix, it was observed that vulvovaginitis was commonly seen in OCP users. Several other studies have also affirmed that vulvovaginitis predominantly affects OCP users.[6] It can be explicated through the hormonal alterations that can induce disturbances in the physiological vaginal microflora.
- Our study demonstrated that vulvovaginitis was predominantly observed in individuals with diabetes. Diabetes contributes to increased vulvovaginitis by reducing the protective lactobacillus species and increasing susceptibility to pathogenic bacteria and

yeast. In a similar study in 2019, an increased incidence of vulvovaginal candidiasis was seen in diabetics owing to hydrolytic enzymes and biofilm formation leading to resistance to host immune response.[41]

- In a Study done in Uganda in 2023, the association of sexual behaviour with multiple sexual partners was linked with infectious vaginitis.[6] Similar results were seen in the present study. Various other studies have also cited the augmented risks of vulvovaginitis in patients who engage with multiple sexual partners.[13] It can be due to increased exposure to the pathogens, altered vaginal microbiome, inconsistent use of protection and hygiene practices, and increased inflammatory response.
- Our study concluded an increased prevalence of greyish-white, thin scanty malodor vaginal discharge. Comparable findings were documented in a study conducted by Jayaluxmi Mahur, which characterised the discharge as being thin, scanty and greyish white.[5] Numerous other studies have also documented that greyish-white discharge is the most prevalent, followed by curdy white and greenish-yellow vaginal discharge in order.[4] This is in contrast to a study conducted by Nimmi in 2022, in which more of curdy white discharge was seen.[42] The differences can be attributed due to variations in study populations, diagnostic methods, and regional prevalence of pathogens.
- Our study showed characteristics of vaginal discharge as thin, scanty, and malodor, less associated with itching. In a study conducted by John in 2023, the most common complaint was vaginal discharge associated with vulval itching.[42] Various other studies have also quoted that thin, scanty malodorous vaginal discharge is predominantly associated with vulvovaginitis. Opposing results were seen in a study by Anuradha in which thick copious vaginal discharge, not associated with malodor

was seen.[7] The discrepancy can be explained based on variability in geographic and demographic factors, and lifestyle factors such as poor hygiene, tight clothing, and hormonal changes.

- In our study, more alkalinity with pH >4.5 was found. This alkaline shift of the vaginal pH favors the proliferation of pathogens which can disrupt the overall balance of the vaginal ecosystem. It is a nonspecific test as vaginal pH can be altered by contamination with lubricating gels, semen, blood, douches, or leakage of amniotic fluid in pregnant patients.
- In a similar study by Julie van, VVC showed vulval and vaginal erythema and edema, thick curdy white vaginal discharge with pH<4.5, Wet mount showed budding yeast or pseudohyphae. Vaginal culture also aided in diagnosis.[43] Study by Rathod SD concluded vulvovaginal candidiasis was associated with vaginal itching (29%), vaginal discharge (31%), and vaginal erythema.[44] This study emphasized the role of diagnostic tests such as vaginal culture along with clinical signs and symptoms for the accurate diagnosis of VVC.[44] Precise diagnosis of VVC is crucial to ensure early treatment and mitigate symptoms and complications.
- Similar to our study, Jason P. also employed similar diagnostic methods such as wet mount examination showed abundant clue cells in bacterial vaginosis, pseudohyphae in yeast infection, and flagellated protozoan with axostyle in trichomoniasis. In a study by Ling Xu, gram stain showed pseudohyphae in candidiasis and the presence of flagella in trichomoniasis.[45] In a study by Mark H. Yudin, bacterial vaginosis was diagnosed based on Amsel's criteria.[46] Once bacterial vaginosis is diagnosed, extended treatment might be required to avert recurrences.
- Nucleic Acid amplification tests carry sensitivity of around 92-100% over microscopic tests. The advanced molecular

technique might enable the identification of various microbial causes which might not be cultured easily in the laboratory. However, despite its high sensitivity and specificity, the nucleic acid amplification tests have drawbacks which include cost factor and logistic challenges. Additionally, it might not be able to provide information on antimicrobial resistance, hindering appropriate treatment. It might limit the role of NAAT's in clinical practice related to vulvovaginitis.[12]

- Timely diagnosis is important as recurrent vulvovaginal inflammation and irritation can damage vulval and vaginal tissues, increasing susceptibility to additional complications such as pelvic inflammatory disease, infertility, urinary tract infections, chronic pelvic pain, and increased susceptibility to sexually transmitted infections, and other related issues.
- According to the CDC guidelines, diagnosis of vulvovaginitis can be made based on point-of-care tests such as vaginal pH, KOH tests, microscopic examination of wet mount of fresh samples of vaginal discharge.[47] Wet mount demonstrated clue cells (epithelial cells with borders obscured by small anaerobic bacteria) in BV and motile trichomonads in trichomoniasis.[47]
- CDC nowadays prefers Nucleic Acid Amplification tests for the detection of trichomoniasis over Wet mount microscopy due to its high sensitivity(95.3%-100%).[48] However, the utilization of molecular tools is constrained by their limited availability and prohibitive cost factors.
- Our study concluded maximum incidence of vulvovaginitis due to bacterial vaginosis followed by vulvovaginal candidiasis and trichomoniasis respectively and mixed infections and other causes in sequence. Comparable results were seen in a study done by Jayaluxmi concluding the highest percentage of cases with bacterial vaginosis followed by VVC, trichomoniasis, and mixed infections in order.[5] Similar results were seen in a study by B Archana in 2022 concluding BV was most commonly

detected followed by VVC and trichomoniasis.[49] A study by Bahram A, also showed an increased prevalence of bacterial vaginosis followed by trichomoniasis and VVC.[50] In a similar study by Sharon L, common causes of vulvovaginitis were BV,VVC, and trichomoniasis followed by co-infections and other causes.[51] Equivalent findings were also seen in a study by Sung-His Huang, bacterial vaginosis and vulvovaginal candidiasis were the common causes leading to vulvovaginitis followed by mixed infections.[52] In contrast, a Study done by Abdullah Al in 2020 showed an increased prevalence of VVC followed by bacterial vaginosis. Contrary results were also seen in a study conducted by Anuradha which concluded more VVC followed by BV and trichomoniasis, followed by mixed infections and other causes. The possible explanation for variations in the etiological agent varies with geographical location, education, personal hygiene, and economical status.[53] Furthermore, differences in the diagnostic methods and criteria used across different research settings can result in differences in the etiological agents responsible for vulvovaginitis.

- In our study, Bacterial vaginosis cases did not show significant statistical association with demographic parameters. A study by Meeta Sharma showed an association of bacterial vaginosis with marital status.[23] In a similar study by Mohammed-Amin, age group was statistically insignificant, however, this study showed an association of bacterial vaginosis with other demographic variables.[54] The variations may stem from the disparities in the composition of the study population, variable diagnostic criteria, and statistical analysis employed across different studies.
- The present study showed a significant association of VVC with parity and age group, similarly seen in a study by Shailaja Khadka.[55] Equivalent results were also seen in a study by Meena Salvi, Vulvovaginal candidiasis was mostly seen in the

26-30 years age group and multiparous women.[56] It can be due to increased sexual activity, repetitive vaginal trauma, immunomodulation, and hormonal imbalance leading to candida overgrowth.

- In our study, Trichomoniasis was only statistically associated with age. Contrary to this, was seen in a study by Erin L. Tompkins in which trichomoniasis was associated significantly with marital status and socioeconomic status.[57] The discrepancy can be due to the lower overall prevalence and sample size, possible shifting epidemiologic trends, or due to difference in testing methods.
- Similar results were also seen in a study by Bignoumba M; overall, no significant statistical difference was seen between infectious vaginitis and age groups, socioeconomic status, marital status, and contraception.
- The present study showed an increased incidence of VVC in diabetics, non-pregnant, and patients with no contraceptive use followed by OCP users. Comparable results were seen in a study done by Irene V.R., major risk factors for developing VVC were attributed to Oral contraceptive pills, diabetes, and Hormone replacement therapy.[58] It creates an estrogen-rich environment, stimulating fungal growth and reproduction, thereby enhancing vaginal colonization. Similar results were also seen in a study by Livia Custodio, stating no significant statistical association of VVC with douching and personal menstrual hygiene, but VVC was associated with multiple sexual partners and diabetes, similar to our study.[59] Whereas, in a study done by Kamya Ramesh on VVC, after analysing the risk factors the most common causes were found to be IUCDs, pregnancy, and diabetes.
- Our study showed bacterial vaginosis in patients who did douching. Similar results were seen in a study by Xianling.[60] Douching involves rinsing the vaginal canal with any liquid

solution, which can hamper the integrity of the normal vaginal microflora promoting the growth of anaerobic bacteria implicated in BV such as Gardnerella vaginalis, Prevotella species, and other anaerobes.

- Our study showed bacterial vaginosis in patients with single sexual partners. Contrary to this was seen in a study conducted by Norah, concluding bacterial vaginosis being mostly seen in patients with multiple sexual partners.[61] According to our study, It can be explained that stability of vaginal flora can be imbalanced due to the same partner's flora, potentially facilitating the growth of bacterial vaginosis-associated bacteria.
- BV is a multifactorial condition influenced by social, epidemiological, microbiological, and host factors. Also, lack of education, hesitance to approach medical services and socio-cultural structure might be the reason for the high prevalence of BV amongst lower strata.
- In a study by Kiran Shazadi, trichomoniasis was not significantly associated with personal hygiene practices and use of contraception similar to our study.[62] It can be because trichomoniasis is primarily transmitted through sexual contact. However, variations in the study protocols and participant demographics could alter the observed relationship.
- In our study, bacterial vaginosis had a greyish-white discharge, thin, scanty, and malodorous. A study conducted by Ana Maria Salinas in 2020 also showed greyish-white malodorous discharge in bacterial vaginosis.[63] A similar study by Vani Gopal in 2018 showed profuse, malodorous discharge associated with bacterial vaginosis, curd-like discharge with pruritis in VVC, and greenish-yellow frothy discharge in trichomoniasis.[64] Comparable results were seen in a study by Eliza Ranjit, BV was associated with thin, malodorous, and greyish-white vaginal discharge.[65]

- A study conducted by Swetha Venugopal proved that bacterial vaginosis was associated with thin greyish-white discharge, candidiasis was associated with thick curdy white discharge and trichomoniasis was associated with frothy discharge.[66]
- Study conducted by Gulnar K found an association of vulval itching/irritation with curd-like, thick vaginal discharge in VVC, similar results were found in our study.[67] A study by Ashwini also found the characteristic thick curdy white vaginal discharge associated with itching, vulval edema in vulvovaginal candidiasis.[68] Accumulation of fungal elements, inflammatory cells, and mucus in the vaginal wall contribute to the characteristic thick curdy vaginal discharge which might even adhere to the vaginal walls. Numerous risk factors have been studied as being associated with VVC, like uncontrolled diabetes mellitus, hormone replacement therapy, douching, multiple sexual partners, immunocompromised state, and others.
- In a similar study by Aruna K. Divakurni, trichomoniasis was associated with malodorous discharge with vulval edema, itching, and greenish-yellow discharge.[69] A study by Jessica A also demonstrated that trichomoniasis was associated with yellowish green frothy discharge along with vulval pruritis or vulval erythema.[70] Equivalent results were seen in a study by Yeshey Dorjey, malodor was associated with bacterial vaginosis and trichomoniasis, and vulval itching was seen in VVC and trichomoniasis.[71]
- Comparable results were also seen in a study by Wenhui Qi, the presentation of mixed vaginitis is atypical, characterized by simultaneous presentation of two or more potential vaginitis features. It might lead to a mixed biofilm formation, dominated by bacteria and fungi, embedded in an extracellular matrix, resistant to host immune response.
- In our study, bacterial vaginosis had a healthy vulva with greyish-white vaginal discharge, similarly in a study by Jason et

al. This can be explained by the fact that it is not an inflammatory condition; erythema, vulvitis, or vulval swelling may not present on physical examination.

- According to CDC, in Candidiasis vulva may exhibit vulvitis, excoriations, vulval edema, and thick curdy vaginal discharge.[72],our study yielded comparable results. It is due to the release of inflammatory mediators and toxins by Candida which can lead to vulvitis. Scratching of the affected area in response to itching associated with vulvovaginal candidiasis may lead to excoriations.
- Comparable results were seen in a study by Al hasnawy, trichomoniasis presented with vulval itching, pruritis, burning, and vaginal discharge similar to our study.[73] Similarly, in a study by Yeshey Dorjey, trichomoniasis was associated with vulval excoriation.[71]
- CDC recommended elevated vaginal pH in BV and trichomoniasis and vaginal pH <4.5 in VVC. Similar results were seen in our study. The elevation of vaginal pH in bacterial vaginosis and trichomoniasis can be due to the metabolic activities of the causative organisms like anaerobic bacteria in BV and trichomonas vaginalis in trichomoniasis. These activities can disturb the balance of vaginal microbiota leading to disruption of the usual acidic environment.

SUMMARY AND CONCLUSION

This prospective cross-sectional study was conducted on 250 women presenting with vulvovaginitis in the Department of Obstetrics and Gynaecology at Dayanand Medical College and Hospital, Ludhiana to determine the clinical and etiological factors leading to vulvovaginitis.

- Vulvovaginitis was mostly seen in the age group of 26-35 years with a standard deviation of 9.04 years.
- It was mostly seen in married (80.8%) and multiparous women (38.8%).
- It was seen in non-pregnant women (76%).
- Upper lower strata had the maximum incidence of vulvovaginitis (33.6%).
- It was seen in women who did douching (71.2%) and reused sanitary napkins (61.4%).
- Oral contraceptive pill users exhibited the highest rates of vulvovaginitis (31.6%).
- Among the participants, those with diabetes (58.4%) and multiple sexual partners (54.4%) experienced comparatively higher rates of vulvovaginitis.
- Greyish white (43.2%), thin (52.4%) and scanty (76.8%) vaginal discharge were commonly seen.
- Malodor was commonly associated with vaginal discharge (63.6%)
- 40% had healthy vulval findings
- In 32% of cases, per speculum examination demonstrated greyish-white discharge.
- Comparatively alkaline pH as >4.5 was seen in 58.8% of cases.
- Vaginal culture done from high vaginal swab showed candida in 30.4% of cases
- Wet mount showed clue cells with PMN’s in 36.8% and BYLC with pseudohyphae in 23.6%

- Gram stain showed 40.8% gram-negative coccobacilli and 31.2% pseudohyphae.
- CBNAAT: CT/NG was performed in which no other common infectious agent causing vulvovaginitis was found.
- Maximum incidence of vulvovaginitis was due to bacterial vaginosis (43.2%) followed by VVC (34.8%) and trichomoniasis (9.6%).
- Mixed infections and other causes contributed about 5.6% and 6.8% to vulvovaginitis
- Amongst the demographic variables, there was a significant statistical association of VVC and trichomoniasis with age group, VVC and parity.
- Amongst the risk factors, there was a significant statistical association of BV and VVC with diabetes and BV, VVC and Trichomoniasis with the number of sexual partners.
- Amongst the clinical presentations, BV and VVC were associated with colour, consistency of discharge, malodor, and vulval itching, Trichomoniasis with colour and itching and mixed infections were associated with colour of the discharge.

The main limitations of the study were:

- It was a single centre study. Multicentric studies are required on a larger scale to study the variations in demographic variables and other major risk factors leading to vulvovaginitis.
- Due to high cost and limited availability of molecular tools; Diagnostic methods need to be improved to detect the risk of potential mixed infections.

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KEY TO MASTERCHART

1.	Primi	Primiparous
2.	Nulli	Nulliparous
3.	OCP’s	Oral contraceptive pills
4.	BYLC	Budding yeast like cells
5.	PMN’s	Polymorphonuclear neutrophils
6.	BV	Bacterial vaginosis
7.	VVC	Vulvovaginal candidiasis
8.	TV	Trichomonas vaginalis
9.	CBNAAT	Cartridge-Based Nucleic Acid amplification tests
10.	CT/NG	Chlamydia trachomatis/Neisseria gonorrhoeae

S.NO	NAME	AGE GROUP	MRD NO	AGE (YEARS)	LMP	MARITAL STATUS	PARITY	PREGNANCY	EDUCATION	OCCUPATION	RESIDENCE	SOCIO-ECONOMIC STATUS
1	SJ	26-35	348293	27	16/01/2023	Married	multiparous	yes	post graduate	employed	rural	upper lower
2	RK	18-25	432455	22	15/08/2022	Married	primi	yes	post graduate	employed	urban	upper class
3	FR	18-25	432456	24	12/Feb	Married	multiparous	no	graduate	unemployed	urban	upper lower
4	SD	26-35	235632	26	14/09/2022	Married	primi	yes	post graduate	housewife	rural	lower middle
5	SG	18-25	235323	20	10/10/2022	Married	primi	no	post graduate	housewife	urban	upper class
6	AH	26-35	223432	34	26/02/2023	Married	multiparous	yes	undergraduate	employed	urban	lower class
7	SF	26-35	236543	28	22/Feb	Married	nulli	no	post graduate	housewife	urban	upper class
8	SE	26-35	235323	28	14/06/2022	Married	primi	yes	graduate	employed	rural	upper lower
9	SR	46-55	453234	47	31/12/2022	Married	multiparous	no	undergraduate	housewife	urban	lower class
10	SG	26-35	465345	26	23/03/2023	Married	primi	yes	post graduate	employed	urban	upper class
11	PT	18-25	235432	22	20/03/2023	Married	nulli	no	graduate	unemployed	urban	lower class
12	SK	18-25	235753	24	15/02/2023	Married	multiparous	no	graduate	unemployed	urban	upper lower
13	KA	26-35	234643	29	21/02/2023	divorced	nulli	no	post graduate	employed	urban	upper class
14	KS	26-25	234674	29	15/08/2022	married	primi	yes	graduate	employed	rural	upper lower
15	PP	56-60	564324	57	29/11/2022	married	multiparous	no	undergraduate	housewife	urban	upper lower
16	MK	26-35	234643	29	29/12/2022	divorced	nulli	no	post graduate	employed	urban	lower middle
17	KK	26-35	235334	27	28/11/2022	married	primi	yes	graduate	employed	urban	lower middle
18	BK	36-45	345322	38	15/03/2023	divorced	multiparous	no	post graduate	unemployed	urban	upper lower
19	RJ	26-35	234564	34	14/02/2023	widow	nulli	no	undergraduate	unemployed	rural	lower class
20	MA	46-55	335344	48	01/01/2023	married	multiparous	no	post graduate	employed	urban	upper middle
21	AK	26-35	435335	34	10/02/2023	divorced	nulli	no	undergraduate	unemployed	urban	lower class
22	RA	26-35	345345	32	15/02/2023	Married	multiparous	no	post graduate	employed	urban	upper class
23	JK	46-55	283940	54	24/04/2023	married	multiparous	no	undergraduate	housewife	rural	lower class
24	GK	26-35	244355	28	15/12/2022	married	primi	yes	post graduate	housewife	urban	upper middle
25	AG	18-25	234632	23	26/04/2023	Married	nulli	no	post graduate	employed	urban	upper middle
26	JA	18-25	246743	24	10/10/2022	married	primi	no	post graduate	employed	urban	lower middle
27	JS	26-35	236435	29	25/04/2023	divorced	nulli	no	post graduate	unemployed	rural	upper lower
28	SG	26-35	326543	29	30/03/2023	married	primi	yes	undergraduate	employed	urban	lower class
29	K	18-25	246432	20	30/03/2023	Married	multiparous	no	undergraduate	unemployed	urban	lower class
30	MK	26-35	264786	33	24/04/2023	Married	multiparous	no	post graduate	employed	urban	upper middle
31	AK	36-45	355743	42	25/05/2023	married	multiparous	no	post graduate	housewife	rural	lower middle
32	SG	26-35	253245	28	08/05/2023	married	primi	yes	post graduate	employed	urban	upper middle
33	S	46-55	254234	47	02/01/2023	widow	multiparous	no	undergraduate	unemployed	urban	lower class
34	ST	26-35	245332	34	08/07/2022	married	primi	no	post graduate	employed	urban	upper middle
35	R	26-35	246332	34	24/07/2022	married	multiparous	no	post graduate	employed	urban	upper class
36	J	18-25	234343	24	13/02/2023	Married	nulli	no	undergraduate	unemployed	urban	lower class
37	MJ	18-25	345334	24	15/02/2023	married	multiparous	yes	post graduate	employed	urban	upper middle
38	RC	26-35	234322	35	10/04/2023	Married	multiparous	no	post graduate	housewife	urban	upper class
39	DT	36-45	234233	36	05/04/2023	married	nulli	yes	post graduate	employed	urban	upper middle
40	DK	26-35	123421	29	02/02/2023	married	primi	yes	undergraduate	employed	rural	lower middle
41	BK	26-35	354322	28	06/02/2023	married	nulli	no	post graduate	employed	urban	upper middle
42	GN	18-25	343829	20	07/04/2023	divorced	multiparous	no	undergraduate	unemployed	urban	lower class
43	AD	18-25	435534	24	04/05/2023	married	primi	no	graduate	unemployed	rural	upper lower
44	MS	18-25	335323	23	09/05/2023	married	multiparous	no	graduate	unemployed	urban	lower class
45	RV	26-35	343233	32	02/03/2023	married	multiparous	yes	post graduate	employed	urban	upper class
46	SS	46-55	422464	49	08/05/2023	Married	nulli	no	undergraduate	unemployed	urban	lower class
47	SJ	26-35	453234	34	04/05/2023	divorced	multiparous	no	graduate	unemployed	rural	lower class
48	SD	46-55	535325	54	21/01/2023	widow	multiparous	no	undergraduate	unemployed	urban	lower class
49	FG	26-35	235535	32	06/06/2023	married	nulli	no	post graduate	employed	urban	upper lower
50	NK	18-25	532535	24	07/04/2023	Married	nulli	no	graduate	unemployed	urban	lower class
51	MK	26-35	532432	34	24/06/2023	married	primi	yes	graduate	unemployed	rural	upper lower
52	GJ	26-35	242452	32	28/04/2023	married	nulli	no	post graduate	employed	urban	upper class
53	NA	36-45	424353	44	23/03/2023	married	multiparous	no	post graduate	employed	urban	upper class
54	SA	26-35	335453	33	29/04/2023	divorced	nulli	no	graduate	unemployed	rural	upper lower
55	PS	18-25	335335	20	28/06/2023	Married	primi	yes	graduate	unemployed	urban	lower middle
56	SS	26-35	535332	28	24/04/2023	married	nulli	no	graduate	employed	urban	upper lower
57	S	26-35	532345	28	23/03/2023	married	multiparous	yes	post graduate	housewife	urban	upper middle
58	MS	36-45	453536	37	18/08/2022	married	primi	no	post graduate	housewife	urban	upper middle
59	R	26-35	265432	34	25/06/2023	divorced	multiparous	no	post graduate	unemployed	urban	upper middle
60	AJ	26-35	364432	33	22/06/2023	married	nulli	no	undergraduate	employed	urban	lower class
61	NS	18-25	235643	24	24/02/2023	widow	nulli	no	graduate	unemployed	urban	lower class
62	NJ	26-35	234564	32	18/10/2022	married	multiparous	no	post graduate	employed	rural	lower middle
63	NG	18-25	237542	20	03/03/2023	married	primi	yes	graduate	employed	urban	upper lower
64	JJ	26-35	245355	32	15/03/2023	married	nulli	no	post graduate	employed	urban	upper class
65	TJ	26-35	253354	33	29/10/2022	married	primi	no	graduate	housewife	urban	lower middle
66	NS	26-35	265345	33	11/11/2022	married	primi	no	graduate	housewife	urban	lower middle
67	S	26-35	245743	34	03/03/2023	married	nulli	no	post graduate	employed	rural	upper class
68	J	18-25	235654	24	03/02/2023	married	primi	no	graduate	unemployed	urban	lower class
69	FG	46-55	234613	52	03/03/2023	married	multiparous	no	post graduate	employed	urban	upper class
70	G	26-35	356743	32	04/04/2023	divorced	nulli	no	graduate	unemployed	urban	upper lower
71	O	26-35	236432	33	01/05/2023	married	multiparous	yes	graduate	employed	urban	upper lower
72	FT	26-35	164325	35	06/06/2023	divorced	nulli	no	post graduate	employed	urban	lower middle
73	FTHG	18-25	264322	24	06/07/2023	married	nulli	no	graduate	employed	urban	upper lower
74	N	26-35	235235	31	24/06/2023	married	nulli	no	graduate	employed	urban	upper lower
75	J	26-35	246532	30	24/04/2023	divorced	nulli	no	post graduate	employed	urban	upper class
76	K	18-25	256743	23	02/03/2023	married	primi	yes	post graduate	employed	urban	middle upper
77	SR	26-35	234544	31	02/02/2023	married	nulli	no	graduate	employed	rural	lower middle
78	SE	26-35	216766	27	03/04/2023	married	primi	yes	undergraduate	employed	urban	lower class
79	DS	36-45	567745	37	04/05/2023	married	nulli	no	post graduate	employed	urban	lower middle
80	TR	26-35	346745	26	05/06/2023	divorced	nulli	no	graduate	unemployed	urban	upper class
81	RA	36-45	457834	43	06/06/2023	widow	multiparous	no	post graduate	employed	urban	lower middle
82	RF	26-35	375453	33	03/02/2023	divorced	nulli	no	post graduate	employed	urban	upper middle
83	SJ	18-25	334654	22	04/02/2023	married	multiparous	no	graduate	unemployed	urban	upper lower
84	VM	26-35	346734	32	06/07/2023	married	nulli	no	undergraduate	housewife	rural	lower class
85	NM	56-60	235643	58	04/05/2023	married	multiparous	no	post graduate	housewife	urban	lower middle

S.NO	NUMBER OF SEXUAL PARTNERS	CONTRACEPTION	DOUCHING	DIABETES	SANITARY NAPKIN REUSE	ITCHING	BURNING	AMOUNT	CONSISTENCY	COLOR	MALODOR
1	multiple	OCP's	yes	yes	yes	Yes	yes	profuse	thin	curdy white	yes
2	single	OCP's	yes	no	yes	no	no	scanty	thick	altered color	yes
3	single	none	no	no	yes	no	no	scanty	thin	greyish white	yes
4	multiple	OCP's	yes	yes	No	yes	no	scanty	thin	curdy white	no
5	multiple	OCP's	no	no	No	no	yes	profuse	thin	greyish white	no
6	single	OCP's	yes	yes	yes	no	no	scanty	thick	blood stained	yes
7	multiple	none	yes	yes	yes	yes	no	scanty	thick	curdy white	yes
8	single	OCP's	yes	no	yes	no	yes	profuse	thin	greyish white	yes
9	single	Barrier	yes	no	yes	no	no	scanty	thin	greyish white	yes
10	multiple	OCP's	no	yes	No	yes	yes	scanty	thick	curdy white	no
11	multiple	Barrier	yes	no	No	no	no	profuse	thin	greenish yellow	yes
12	multiple	Barrier	yes	yes	yes	yes	no	scanty	thick	curdy white	no
13	multiple	none	yes	no	No	no	yes	scanty	thin	greyish white	yes
14	multiple	OCP's	no	yes	yes	yes	yes	scanty	thick	curdy white	yes
15	single	OCP's	yes	no	No	no	no	profuse	thin	greyish white	yes
16	multiple	none	yes	yes	yes	yes	yes	scanty	thin	curdy white	no
17	single	OCP's	no	no	No	no	no	scanty	thin	altered color	yes
18	multiple	none	yes	yes	No	yes	no	scanty	thick	curdy white	no
19	single	none	yes	no	yes	no	no	profuse	thin	altered color	yes
20	single	OCP's	yes	yes	yes	no	no	scanty	thin	greyish white	yes
21	multiple	none	no	yes	No	yes	no	scanty	thin	curdy white	yes
22	single	OCP's	yes	yes	yes	no	yes	scanty	thin	greyish white	no
23	single	emergency pills	yes	no	No	no	no	scanty	thin	greyish white	no
24	multiple	OCP's	yes	yes	yes	yes	yes	profuse	thick	curdy white	no
25	single	Barrier	no	no	No	no	no	scanty	thin	blood stained	yes
26	single	OCP's	yes	no	yes	no	yes	scanty	thin	greyish white	yes
27	multiple	none	yes	yes	yes	yes	no	scanty	thick	curdy white	no
28	single	OCP's	no	no	yes	no	no	profuse	thin	greyish white	yes
29	single	barrier	yes	no	No	no	yes	scanty	thin	greyish white	yes
30	multiple	none	yes	yes	yes	no	no	scanty	thin	blood stained	no
31	single	depo	no	yes	yes	yes	no	scanty	thick	curdy white	yes
32	multiple	IUCD	yes	no	No	no	no	scanty	thin	curdy white	no
33	single	none	yes	no	yes	no	no	profuse	thin	blood stained	yes
34	multiple	IUCD	yes	yes	yes	no	yes	scanty	thin	blood stained	no
35	multiple	IUCD	yes	yes	yes	no	no	scanty	thin	greenish yellow	no
36	multiple	OCP's	no	yes	No	yes	no	scanty	thick	curdy white	yes
37	multiple	OCP's	yes	yes	yes	no	no	scanty	thin	greyish white	no
38	single	OCP's	yes	no	yes	no	yes	profuse	thick	blood stained	no
39	multiple	IUCD	no	no	No	yes	no	scanty	thick	curdy white	yes
40	single	depo	yes	yes	No	no	no	scanty	thin	altered color	no
41	multiple	emergency pills	yes	no	yes	no	no	scanty	thin	blood stained	yes
42	single	OCP's	yes	yes	No	no	yes	profuse	thin	greyish white	yes
43	multiple	barrier	yes	yes	yes	yes	no	scanty	thick	greenish yellow	no
44	single	barrier	yes	yes	No	no	yes	scanty	thin	curdy white	yes
45	multiple	IUCD	no	no	yes	no	no	scanty	thick	curdy white	yes
46	multiple	none	yes	no	yes	no	no	scanty	thin	blood stained	no
47	multiple	OCP's	yes	yes	yes	no	no	profuse	thin	altered color	no
48	multiple	none	yes	no	No	yes	yes	scanty	thin	greenish yellow	yes
49	single	OCP's	yes	yes	yes	no	yes	scanty	thin	altered color	yes
50	multiple	barrier	no	no	No	no	yes	scanty	thin	greyish white	yes
51	multiple	barrier	yes	no	yes	no	no	scanty	thin	greyish white	no
52	single	OCP's	yes	no	yes	no	no	profuse	thin	greyish white	yes
53	single	OCP's	yes	yes	yes	no	no	scanty	thick	greyish white	yes
54	multiple	none	yes	no	yes	no	no	scanty	thick	greenish yellow	yes
55	multiple	OCP's	no	yes	No	yes	yes	profuse	thick	blood stained	no
56	single	Barrier	yes	yes	yes	no	no	profuse	thin	greyish white	yes
57	multiple	none	yes	yes	No	yes	no	profuse	thick	blood stained	no
58	single	OCP's	no	yes	yes	no	yes	scanty	thin	blood stained	no
59	single	none	no	no	No	yes	no	scanty	thick	greyish white	yes
60	multiple	depo	yes	yes	yes	yes	no	scanty	thick	blood stained	no
61	single	none	yes	no	yes	no	yes	profuse	thin	greyish white	yes
62	multiple	OCP's	no	no	yes	yes	no	scanty	thick	greenish yellow	yes
63	single	Barrier	yes	no	yes	no	yes	scanty	thin	greyish white	yes
64	multiple	OCP's	yes	yes	No	yes	no	scanty	thick	altered color	no
65	single	IUCD	no	no	yes	no	yes	profuse	thin	greyish white	yes
66	single	emergency pills	no	no	yes	no	no	scanty	thin	greyish white	yes
67	multiple	OCP's	yes	yes	yes	yes	no	scanty	thick	altered color	yes
68	multiple	barrier	yes	yes	No	no	no	scanty	thick	greyish white	no
69	multiple	Barrier	no	yes	No	yes	yes	scanty	thick	greenish yellow	yes
70	multiple	none	yes	yes	yes	yes	yes	profuse	thick	greyish white	yes
71	multiple	depo	yes	no	No	no	no	scanty	thin	greyish white	yes
72	multiple	OCP's	yes	yes	yes	yes	yes	scanty	thick	curdy white	no
73	multiple	OCP's	no	yes	yes	yes	no	scanty	thick	greenish yellow	no
74	single	barrier	yes	yes	yes	no	no	scanty	thick	greyish white	yes
75	multiple	none	yes	yes	No	no	yes	profuse	thick	greenish yellow	no
76	multiple	barrier	no	yes	yes	yes	no	scanty	thick	altered color	yes
77	single	OCP's	no	no	yes	no	yes	scanty	thin	greyish white	yes
78	single	none	yes	yes	No	yes	yes	scanty	thick	altered color	yes
79	single	OCP's	no	yes	No	no	no	profuse	thin	greyish white	yes
80	single	none	yes	yes	yes	no	no	scanty	thin	greyish white	yes
81	multiple	none	no	yes	yes	yes	yes	scanty	thick	greenish yellow	no
82	multiple	none	no	no	yes	yes	no	scanty	thick	greenish yellow	yes
83	single	barrier	yes	no	yes	no	no	scanty	thin	greyish white	yes
84	multiple	barrier	no	yes	yes	yes	no	profuse	thick	greyish white	no
85	single	barrier	no	yes	No	no	yes	scanty	thin	greyish white	yes

S.NO	LOCAL EXAMINATION	PER SPECULUM	vaginal pH	RBS	PAP SMEAR	VAGINAL CULTURE	KOH SMEAR
1	vulvitis	curdy white discharge	<4.5	raised	NILM pseudohyphae present	candida	BYLC with pseudohyphae
2	normal	greyish white	>4.5	normal	NILM, BV	No growth	negative with fishy odor
3	vulvitis	blood stained	>4.5	normal	NILM	No growth	negative with fishy odor
4	normal	curdy white discharge	<4.5	normal	NILM pseudohyphae present	candida	BYLC with pseudohyphae
5	vulvitis	normal	>4.5	raised	NILM	candida	BYLC with pseudohyphae
6	excoriation	greyish white	>4.5	raised	NILM	candida	BYLC with pseudohyphae
7	vulvitis	curdy white discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
8	normal	normal	>4.5	raised	NILM	No growth	negative with fishy odor
9	vulval swelling	normal	>4.5	normal	NILM, BV	no growth	negative with fishy odor
10	vulvitis	curdy white discharge	<4.5	raised	NILM pseudohyphae present	candida	BYLC with pseudohyphae
11	excoriation	altered discharge	>4.5	normal	NILM	No growth	negative smear
12	vulvitis	curdy white discharge	<4.5	raised	NILM pseudohyphae present	candida	BYLC with pseudohyphae
13	excoriation	altered discharge	>4.5	raised	NILM	candida	BYLC with pseudohyphae
14	vulval swelling	blood stained	<4.5	raised	NILM	candida	BYLC with pseudohyphae
15	normal	greyish white	>4.5	normal	NILM	no growth	negative with fishy odor
16	vulvitis	curdy white discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
17	normal	greyish white	>4.5	normal	NILM	others	negative with fishy odor
18	vulvitis	curdy white discharge	<4.5	raised	NILM pseudohyphae present	candida	BYLC with pseudohyphae
19	normal	greyish white	>4.5	raised	NILM	no growth	negative with fishy odor
20	normal	curdy white discharge	>4.5	raised	NILM, BV	no growth	negative with fishy odor
21	vulval swelling	curdy white discharge	<4.5	normal	NILM	candida	BYLC with pseudohyphae
22	excoriation	altered discharge	>4.5	raised	NILM	No growth	negative smear
23	vulval atrophy	normal	>4.5	normal	NILM atrophic smear	no growth	negative with fishy odor
24	vulvitis	curdy white discharge	<4.5	normal	NILM	candida	BYLC with pseudohyphae
25	vulval swelling	greyish white	>4.5	normal	NILM	No growth	negative with fishy odor
26	excoriation	altered discharge	>4.5	normal	NILM	candida	BYLC with pseudohyphae
27	vulvitis	curdy white discharge	<4.5	raised	NILM pseudohyphae present	candida	negative smear
28	vulvitis	normal	>4.5	normal	NILM	others	negative with fishy odor
29	vulval swelling	normal	>4.5	normal	NILM, BV	No growth	negative with fishy odor
30	vulvitis	altered discharge	<4.5	normal	NILM	candida	BYLC with pseudohyphae
31	vulvitis	curdy white discharge	<4.5	raised	NILM	no growth	BYLC with pseudohyphae
32	vulval swelling	altered discharge	>4.5	normal	NILM	others	negative smear
33	normal	greyish white	>4.5	normal	NILM	No growth	negative smear
34	vulvitis	altered discharge	>4.5	normal	NILM	No growth	negative smear
35	excoriation	normal	>4.5	normal	NILM	No growth	negative smear
36	vulvitis	curdy white discharge	<4.5	raised	NILM pseudohyphae present	candida	BYLC with pseudohyphae
37	vulval swelling	altered discharge	>4.5	normal	NILM	candida	BYLC with pseudohyphae
38	excoriation	greyish white	<4.5	raised	NA	others	negative smear
39	vulvitis	curdy white discharge	<4.5	raised	NILM	negative	BYLC with pseudohyphae
40	vulvitis	blood stained	>4.5	raised	NILM	others	negative smear
41	normal	greyish white	>4.5	normal	NILM	No growth	negative smear with fishy odour
42	excoriation	greyish white	>4.5	raised	NILM	No growth	negative smear
43	vulval swelling	normal	>4.5	raised	NILM	others	negative smear
44	vulvitis	greyish white	>4.5	raised	NILM,BV	No growth	negative smear
45	normal	greyish white	>4.5	normal	NILMbacterial vaginosis	no growth	negative smear with fishy odour
46	vulvitis	altered discharge	<4.5	normal	NILM	others	negative smear
47	excoriation	blood stained	<4.5	raised	NA	No growth	negative smear
48	vulval swelling	greenish yellow	>4.5	normal	NILM	No growth	negative smear
49	normal	normal	>4.5	raised	NILM	No growth	negative smear with fishy odour
50	normal	greyish white	>4.5	raised	NILM	No growth	negative smear with fishy odour
51	vulvitis	altered discharge	>4.5	normal	NILM,BV	No growth	negative smear with fishy odour
52	excoriation	normal	>4.5	normal	NILM,BV	others	negative smear with fishy odour
53	vulval atrophy	greyish white	>4.5	raised	NILM	others	negative smear with fishy odour
54	normal	greenish yellow	>4.5	normal	NILM	No growth	negative smear
55	vulvitis	normal	<4.5	raised	NILM pseudohyphae present	candida	negative smear
56	vulvitis	greyish white	>4.5	raised	NILMbacterial vaginosis	No growth	negative smear with fishy odour
57	vulvitis	normal	<4.5	raised	NILM	No growth	BYLC with pseudohyphae
58	excoriation	altered discharge	<4.5	raised	NILM	No growth	negative smear
59	normal	greyish white	>4.5	normal	NILM,BV	No growth	negative smear
60	vulvitis	normal	<4.5	raised	NILM candida	candida	BYLC with pseudohyphae
61	normal	greyish white	>4.5	raised	NILM	No growth	negative smear with fishy odour
62	vulval swelling	greenish yellow	>4.5	normal	NILM	others	negative smear
63	normal	greyish white	>4.5	normal	NA	no growth	negative smear with fishy odour
64	vulvitis	altered discharge	<4.5	raised	NILM	candida	negative smear with fishy odour
65	excoriation	greyish white	>4.5	normal	NILM	no growth	negative smear with fishy odour
66	normal	greyish white	>4.5	normal	NILM,BV	no growth	negative smear
67	normal	altered discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
68	vulvitis	curdy white discharge	<4.5	normal	NILM pseudohyphae present	candida	negative smear
69	vulval swelling	greenish yellow	>4.5	raised	NILM	others	negative smear
70	vulvitis	curdy white discharge	<4.5	raised	NILM	no growth	BYLC with pseudohyphae
71	normal	altered discharge	>4.5	normal	NILM,BV	no growth	negative smear with fishy odour
72	vulval swelling	curdy white discharge	<4.5	normal	NILM	candida	BYLC with pseudohyphae
73	vulval swelling	greenish yellow	>4.5	normal	NILM	others	negative smear
74	normal	greyish white	>4.5	normal	NILM,BV	no growth	negative smear with fishy odour
75	vulvitis	curdy white discharge	<4.5	raised	NILM	candida	negative smear
76	vulval swelling	greenish yellow	>4.5	raised	NILM	No growth	negative smear
77	normal	greyish white	>4.5	normal	NILM,BV	others	negative smear
78	normal	normal	>4.5	raised	NILM	no growth	negative smear with fishy odour
79	vulval swelling	altered discharge	>4.5	normal	NILM	No growth	negative smear
80	vulval swelling	greyish white	>4.5	normal	NILM	no growth	negative smear with fishy odour
81	vulvitis	curdy white discharge	<4.5	normal	NILM	candida	BYLC with pseudohyphae
82	excoriation	greenish yellow	>4.5	raised	NILM	No growth	negative smear
83	vulvitis	greyish white	>4.5	normal	NILM,BV	others	negative smear with fishy odour
84	vulvitis	curdy white discharge	<4.5	raised	NILM pseudohyphae present	candida	BYLC with pseudohyphae
85	normal	greyish white	>4.5	raised	NILMbacterial vaginosis	others	negative smear with fishy odour

S.NO	WET MOUNT	CBNAAT : CT/NG	GRAM STAIN	DIAGNOSIS
1	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
2	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
3	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
4	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
5	BYLC with pseudohyphae with clue cells	not done	gram negative coccobacilli with pseudohyphae	BV + VVC
6	BYLC with pseudohyphae with clue cells	not done	gram negative coccobacilli with pseudohyphae	BV + VVC
7	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
8	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
9	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
10	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
11	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
12	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
13	pear shaped trophozoite with jerky motility	not done	gram negative coccobacilli with pseudohyphae	BV +VVC + trichomoniasis
14	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
15	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
16	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
17	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
18	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
19	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
20	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
21	BYLC with pseudohyphae	not done	gram positive bacilli	Vulvovaginal candidiasis
22	negative	positive	gram positive bacilli	Others
23	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
24	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
25	clue cells with PMN's	not done	gram positive bacilli	bacterial vaginosis
26	clue cells with PMN's	not done	pseudohyphae	BV + VVC
27	negative	not done	pseudohyphae	Vulvovaginal candidiasis
28	negative	not done	gram negative coccobacilli	bacterial vaginosis
29	clue cells with PMN's	not done	gram positive bacilli	bacterial vaginosis
30	BYLC with pseudohyphae with clue cells	not done	pseudohyphae	BV+VVC + trichomoniasis
31	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
32	negative	negative	gram negative coccobacilli	others
33	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
34	negative	positive	gram positive bacilli	others
35	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
36	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
37	clue cells with PMN's	not done	gram negative coccobacilli	BV+VVC + trichomoniasis
38	negative	positive	gram positive bacilli	others
39	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
40	negative	negative	gram positive bacilli	others
41	negative	not done	gram negative coccobacilli	bacterial vaginosis
42	clue cells with PMN's	not done	gram positive bacilli	bacterial vaginosis
43	pear shaped trophozoite with jerky motility	not done	gram positive bacilli	trichomoniasis
44	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
45	negative	not done	gram negative coccobacilli	bacterial vaginosis
46	negative	positive	gram postive coccobacilli	others
47	negative	negative	gram negative coccobacilli	others
48	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
49	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
50	negative	not done	gram positive bacilli	bacterial vaginosis
51	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
52	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
53	negative	not done	gram negative coccobacilli	bacterial vaginosis
54	negative	not done	flagella with axostyle	trichomoniasis
55	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
56	negative	not done	gram negative coccobacilli	bacterial vaginosis
57	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
58	negative	negative	gram positive bacilli	others
59	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
60	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
61	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
62	negative	not done	gram positive bacilli	trichomoniasis
63	negative	not done	gram negative coccobacilli	bacterial vaginosis
64	BYLC with pseudohyphae with clue cells	not done	gram positive bacilli	BV+VVC + trichomoniasis
65	negative	not done	gram negative coccobacilli	bacterial vaginosis
66	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
67	BYLC with pseudohyphae with clue cells	not done	pseudohyphae	BV+VVC
68	negative	not done	gram postive coccobacilli	Vulvovaginal candidiasis
69	negative	not done	flagella with axostyle	trichomoniasis
70	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
71	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
72	negative	not done	pseudohyphae	Vulvovaginal candidiasis
73	negative	not done	gram positive bacilli	trichomoniasis
74	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
75	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
76	negative	negative	gram positive bacilli	others
77	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
78	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
79	clue cells with PMN's	not done	gram positive bacilli	bacterial vaginosis
80	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
81	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
82	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
83	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
84	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
85	negative	not done	gram negative coccobacilli	bacterial vaginosis

S.NO	NAME	AGE GROUP	MRD NO	AGE (YEARS)	LMP	MARITAL STATUS	PARITY	PREGNANCY	EDUCATION	OCCUPATION	RESIDENCE	SOCIO-ECONOMIC STATUS
86	S	26-35	236543	34	29/11/2022	married	multiparous	yes	post graduate	employed	urban	upper class
87	S	26-35	237545	33	04/05/2023	divorced	multiparous	no	graduate	unemployed	urban	upper lower
88	J	18-25	245676	24	14/04/2023	Married	primi	yes	graduate	unemployed	urban	upper lower
89	FT	26-35	293029	31	25/05/2023	married	nulli	no	graduate	employed	urban	lower middle
90	Y	46-55	135234	54	23/05/2023	married	multiparous	no	post graduate	employed	urban	upper middle
91	KG	26-35	136532	32	18/04/2023	married	nulli	no	post graduate	employed	rural	lower middle
92	KT	26-35	165435	26	25/05/2023	married	multiparous	yes	graduate	employed	urban	lower middle
93	DD	18-25	467533	18	20/10/2022	married	primi	no	graduate	employed	urban	lower middle
94	DS	26-35	164432	27	24/03/2023	divorced	nulli	no	graduate	unemployed	urban	lower middle
95	LS	26-35	176547	28	24/08/2023	married	nulli	no	graduate	employed	urban	lower middle
96	LJ	26-35	189345	27	21/11/2022	married	multiparous	yes	post graduate	employed	rural	upper middle
97	SF	36-45	176543	38	20/08/2023	married	nulli	no	post graduate	employed	urban	upper class
98	SG	26-35	147543	32	18/05/2023	married	multiparous	no	graduate	employed	urban	upper lower
99	SH	26-35	186446	31	02/02/2023	divorced	multiparous	no	graduate	unemployed	urban	upper lower
100	JK	26-35	217763	30	30/05/2023	married	nulli	no	graduate	employed	urban	lower middle
101	JK	18-25	123789	20	20/02/2023	Married	primi	no	graduate	unemployed	urban	upper middle
102	LS	46-55	579978	52	03/04/2023	married	multiparous	no	post graduate	employed	urban	upper class
103	MK	26-35	578987	34	04/10/2022	married	primi	yes	undergraduate	employed	urban	lower class
104	M	26-35	276543	32	05/03/2023	married	nulli	no	graduate	employed	urban	lower class
105	F	18-25	245674	24	04/04/2023	divorced	nulli	no	graduate	unemployed	rural	lower class
106	G	18-25	256765	24	21/Nov	married	primi	no	graduate	unemployed	urban	upper lower
107	RA	26-35	290495	32	04/05/2023	divorced	nulli	no	undergraduate	unemployed	urban	lower class
108	HS	26-35	325676	31	02/10/2022	married	primi	yes	graduate	housewife	urban	upper middle
109	HJ	18-25	235643	25	20/10/2022	married	primi	no	graduate	housewife	urban	upper middle
110	Y	36-45	289345	36	04/03/2023	married	nulli	no	post graduate	employed	urban	upper class
111	Z	46-55	345644	36	06/08/2022	married	primi	no	post graduate	employed	urban	upper middle
112	SJ	26-35	346754	27	03/03/2023	married	multiparous	no	post graduate	employed	rural	lower middle
113	SG	18-25	335644	20	04/04/2023	married	nulli	no	graduate	housewife	urban	upper lower
114	RJ	26-35	345765	28	05/05/2023	divorced	nulli	no	post graduate	employed	urban	upper class
115	RA	18-25	436754	23	01/02/2023	divorced	nulli	no	graduate	unemployed	urban	upper lower
116	SF	26-35	326743	34	30/03/2023	married	multiparous	yes	undergraduate	housewife	urban	upper lower
117	X	26-35	458354	34	02/03/2023	divorced	nulli	no	graduate	employed	urban	upper lower
118	SS	36-45	376576	37	05/07/2022	married	primi	no	undergraduate	housewife	urban	lower class
119	KP	18-25	437653	18	14/08/2022	married	primi	no	graduate	housewife	urban	lower class
120	AG	18-25	347554	20	03/04/2023	married	multiparous	no	graduate	unemployed	urban	lower class
121	AC	36-45	275567	37	29/Mar	married	nulli	no	post graduate	employed	urban	upper class
122	B	26-35	437854	32	04/03/2023	married	primi	no	graduate	employed	urban	upper middle
123	N	26-35	326754	34	15/11/2022	married	primi	yes	graduate	housewife	urban	upper lower
124	K	36-45	357654	37	20/12/2022	married	primi	no	post graduate	employed	rural	upper middle
125	F	26-35	247443	28	04/02/2023	married	nulli	yes	graduate	housewife	urban	upper lower
126	TU	18-25	264567	20	06/08/2023	divorced	nulli	no	graduate	unemployed	urban	lower class
127	DA	26-35	335674	28	15/06/2023	married	nulli	yes	graduate	employed	urban	upper lower
128	FR	26-35	235633	29	14/07/2023	divorced	nulli	no	graduate	employed	urban	upper lower
129	SE	18-25	567433	21	04/04/2023	married	primi	no	graduate	unemployed	urban	upper lower
130	DR	26-35	276467	28	27/04/2023	married	nulli	no	graduate	housewife	urban	lower middle
131	H	46-55	346754	50	04/06/2023	married	multiparous	no	post graduate	employed	urban	upper class
132	G	26-35	236423	27	06/09/2022	married	primi	yes	graduate	employed	urban	upper lower
133	F	26-35	235356	34	18/07/2022	married	primi	no	graduate	housewife	rural	upper lower
134	RT	18-25	346533	20	05/07/2023	divorced	nulli	no	graduate	unemployed	urban	lower class
135	FD	26-35	247554	34	03/10/2022	married	primi	no	post graduate	employed	urban	upper lower
136	XC	36-45	238664	38	27/10/2022	married	primi	no	post graduate	employed	rural	upper middle
137	SD	26-35	247543	32	15/06/2023	divorced	nulli	no	post graduate	employed	urban	upper class
138	ST	26-35	234676	35	25/09/2022	married	primi	no	post graduate	employed	urban	upper lower
139	E	18-25	567534	24	24/07/2022	married	primi	yes	graduate	housewife	rural	upper lower
140	FD	26-35	357535	27	05/05/2023	divorced	nulli	no	graduate	employed	urban	upper lower
141	B	46-55	347654	54	06/03/2023	married	nulli	no	post graduate	employed	urban	upper class
142	GH	26-35	346755	33	15/10/2022	married	primi	yes	graduate	housewife	urban	lower class
143	F	18-25	357543	24	04/06/2023	married	nulli	no	graduate	unemployed	urban	lower middle
144	D	26-35	357653	31	15/08/2023	married	nulli	no	undergraduate	employed	urban	lower class
145	S	26-35	764567	28	05/11/2022	married	primi	yes	graduate	employed	rural	lower middle
146	D	26-35	457543	30	25/11/2022	married	primi	no	graduate	unemployed	urban	upper middle
147	VG	26-35	235673	28	04/05/2023	divorced	nulli	no	graduate	employed	urban	upper lower
148	F	26-35	265435	31	04/08/2022	married	primi	yes	undergraduate	employed	rural	lower class
149	D	46-55	246543	50	05/08/2023	married	multiparous	no	post graduate	employed	urban	upper lower
150	S	26-35	236433	32	04/05/2023	divorced	nulli	no	graduate	unemployed	urban	upper middle
151	A	18-25	236432	18	29/11/2022	married	primi	no	graduate	employed	rural	lower middle
152	DF	26-35	223543	32	06/08/2023	married	multiparous	yes	graduate	employed	urban	lower middle
153	CV	46-55	236743	50	14/08/2023	married	multiparous	no	post graduate	employed	urban	upper lower
154	DD	26-35	333435	32	12/05/2023	divorced	nulli	no	graduate	unemployed	urban	upper middle
155	AS	56-60	375456	57	23/03/2023	married	multiparous	no	post graduate	housewife	rural	lower middle
156	AR	26-35	276576	32	05/10/2022	married	primi	yes	graduate	employed	urban	upper lower
157	DR	18-25	356754	24	03/07/2023	married	multiparous	no	graduate	employed	urban	upper lower
158	TU	26-35	264456	32	04/08/2023	married	multiparous	no	graduate	housewife	rural	lower middle
159	G	36-45	264432	44	02/07/2023	married	multiparous	no	post graduate	employed	urban	upper class
160	D	26-35	236755	34	03/11/2022	married	primi	yes	post graduate	employed	urban	upper lower
161	S	18-25	265423	24	05/08/2023	married	multiparous	no	graduate	employed	rural	lower middle
162	A	36-45	267543	38	08/05/2023	married	multiparous	no	post graduate	employed	urban	upper lower
163	XF	26-35	267854	27	28/10/2022	married	primi	yes	graduate	employed	urban	lower middle
164	XF	26-35	289065	31	05/06/2023	married	multiparous	no	graduate	housewife	urban	lower middle
165	VG	18-25	376543	20	17/09/2022	married	primi	no	graduate	housewife	urban	lower class
166	FT	36-45	276533	41	08/05/2023	married	multiparous	no	post graduate	employed	urban	lower middle
167	RE	26-35	346785	32	04/06/2023	divorced	multiparous	no	post graduate	employed	rural	upper middle
168	RT	36-45	346734	37	31/10/2022	married	primi	no	post graduate	employed	urban	upper lower
169	RE	26-35	378965	27	14/06/2023	married	nulli	no	graduate	employed	urban	upper lower
170	VG	18-25	253567	20	15/06/2023	married	nulli	no	graduate	unemployed	urban	upper lower

S.NO	NUMBER OF SEXUAL PARTNERS	CONTRACEPTION	DOUCHING	DIABETES	SANITARY NAPKIN REUSE	ITCHING	BURNING	AMOUNT	CONSISTENCY	COLOR	MALODOR
86	multiple	OCP's	no	yes	No	yes	no	scanty	thick	altered color	yes
87	single	none	no	yes	yes	no	yes	scanty	thin	greyish white	yes
88	single	none	no	yes	No	no	no	scanty	thin	greyish white	no
89	multiple	depo	yes	yes	yes	yes	yes	scanty	thick	altered color	yes
90	single	barrier	yes	yes	No	no	no	scanty	thin	altered color	no
91	multiple	OCP's	yes	yes	yes	yes	yes	profuse	thick	curdy white	yes
92	multiple	none	yes	yes	No	no	no	scanty	thick	curdy white	no
93	single	none	yes	yes	yes	no	no	scanty	thin	altered color	yes
94	multiple	none	yes	yes	No	yes	yes	scanty	thick	curdy white	yes
95	multiple	IUCD	no	no	yes	no	no	profuse	thin	altered color	yes
96	multiple	OCP's	yes	no	yes	yes	no	scanty	thick	blood stained	no
97	single	emergency pills	no	yes	No	no	yes	scanty	thin	greyish white	yes
98	multiple	OCP's	yes	yes	yes	no	no	scanty	thin	curdy white	no
99	multiple	none	no	no	yes	yes	no	scanty	thick	greenish yellow	yes
100	multiple	barrier	yes	yes	No	yes	yes	scanty	thick	altered color	yes
101	multiple	barrier	yes	no	yes	no	no	scanty	thin	greyish white	yes
102	multiple	emergency pills	yes	yes	No	no	no	scanty	thick	altered color	yes
103	single	depo	no	no	yes	no	yes	profuse	thin	greyish white	yes
104	multiple	OCP'S	no	yes	No	yes	yes	scanty	thick	curdy white	no
105	multiple	OCP's	yes	yes	yes	yes	no	scanty	thin	blood stained	yes
106	multiple	OCP's	yes	yes	yes	yes	no	scanty	thin	greyish white	no
107	single	OCP's	no	yes	No	no	no	scanty	thick	curdy white	no
108	multiple	none	no	yes	yes	no	yes	scanty	thin	greyish white	yes
109	multiple	depo	yes	yes	yes	no	yes	scanty	thin	greyish white	yes
110	multiple	OCP's	yes	yes	No	yes	no	scanty	thick	curdy white	yes
111	single	OCP's	yes	no	yes	yes	no	profuse	thick	greyish white	yes
112	multiple	OCP's	yes	yes	yes	yes	no	scanty	thick	curdy white	no
113	single	Barrier	yes	yes	No	no	yes	scanty	thin	greyish white	yes
114	multiple	none	yes	yes	yes	yes	no	scanty	thick	curdy white	yes
115	single	barrier	yes	yes	No	no	no	profuse	thin	curdy white	yes
116	multiple	barrier	no	yes	yes	yes	no	scanty	thick	curdy white	yes
117	multiple	none	yes	yes	No	yes	yes	scanty	thick	curdy white	no
118	single	IUCD	yes	no	yes	no	no	scanty	thin	greyish white	yes
119	single	Barrier	yes	yes	yes	no	no	scanty	thin	greyish white	yes
120	multiple	barrier	no	yes	No	no	no	scanty	thin	greyish white	yes
121	multiple	OCP's	yes	no	No	yes	no	scanty	thick	greenish yellow	yes
122	multiple	barrier	no	yes	yes	yes	yes	scanty	thick	greenish yellow	yes
123	single	OCP's	yes	yes	No	no	no	profuse	thin	greyish white	no
124	single	OCP's	yes	no	yes	no	no	scanty	thin	greyish white	yes
125	multiple	barrier	no	yes	yes	yes	no	scanty	thick	curdy white	no
126	single	OCP's	no	no	No	no	yes	profuse	thin	greyish white	yes
127	multiple	barrier	yes	yes	No	yes	no	scanty	thick	curdy white	yes
128	single	none	yes	yes	yes	no	no	scanty	thick	altered color	yes
129	multiple	OCP's	yes	yes	No	yes	no	profuse	thin	curdy white	yes
130	single	barrier	yes	no	yes	no	no	scanty	thin	greyish white	yes
131	single	depo	no	yes	No	no	no	scanty	thick	greyish white	no
132	multiple	none	yes	no	yes	yes	yes	scanty	thick	curdy white	yes
133	multiple	none	no	yes	No	yes	no	scanty	thin	greenish yellow	yes
134	single	OCP's	yes	yes	yes	no	yes	scanty	thick	greyish white	no
135	single	OCP's	yes	no	No	no	no	scanty	thin	greyish white	yes
136	single	OCP's	no	yes	yes	yes	no	scanty	thin	blood stained	no
137	single	none	yes	yes	No	no	no	profuse	thick	greyish white	yes
138	multiple	barrier	yes	no	yes	yes	no	scanty	thick	greenish yellow	yes
139	single	OCP's	no	no	yes	no	yes	scanty	thin	greyish white	yes
140	single	none	no	yes	yes	no	no	profuse	thin	greyish white	no
141	single	OCP's	yes	yes	No	yes	yes	scanty	thin	greenish yellow	yes
142	single	depo	yes	yes	yes	no	no	scanty	thin	greyish white	no
143	multiple	barrier	no	no	yes	yes	yes	scanty	thin	greenish yellow	yes
144	single	IUCD	yes	no	No	no	no	profuse	thick	greyish white	yes
145	multiple	none	yes	no	yes	yes	no	scanty	thick	greenish yellow	yes
146	single	barrier	no	no	yes	no	yes	scanty	thin	greyish white	yes
147	single	none	no	no	yes	no	no	profuse	thick	greyish white	yes
148	multiple	none	yes	yes	yes	yes	no	scanty	thin	greenish yellow	yes
149	multiple	barrier	yes	yes	yes	yes	yes	profuse	thick	curdy white	yes
150	multiple	barrier	yes	no	yes	no	yes	scanty	thin	greyish white	no
151	multiple	emergency pills	no	yes	yes	yes	no	scanty	thick	curdy white	yes
152	single	IUCD	yes	no	yes	no	no	scanty	thin	greyish white	yes
153	multiple	Barrier	yes	yes	yes	yes	yes	profuse	thick	curdy white	yes
154	single	none	no	no	yes	no	no	scanty	thin	greyish white	yes
155	multiple	OCP's	yes	no	yes	yes	yes	scanty	thin	greenish yellow	no
156	single	none	no	no	yes	no	yes	scanty	thick	greyish white	yes
157	multiple	barrier	yes	no	No	yes	no	scanty	thick	greenish yellow	yes
158	single	barrier	yes	no	yes	no	no	scanty	thin	greyish white	no
159	multiple	OCP's	yes	no	No	yes	no	scanty	thin	greenish yellow	yes
160	single	none	no	yes	yes	no	no	scanty	thick	greyish white	yes
161	multiple	OCP's	yes	yes	No	yes	yes	profuse	thick	curdy white	yes
162	single	OCP's	yes	yes	yes	no	no	scanty	thin	greyish white	no
163	multiple	none	no	yes	yes	yes	no	scanty	thick	curdy white	yes
164	single	OCP's	yes	no	yes	no	yes	scanty	thin	greyish white	yes
165	single	OCP's	no	no	yes	no	no	profuse	thin	greyish white	no
166	multiple	barrier	yes	yes	yes	yes	yes	scanty	thick	curdy white	yes
167	multiple	depo	no	yes	No	yes	no	scanty	thick	curdy white	yes
168	single	IUCD	yes	no	yes	no	yes	scanty	thin	greyish white	yes
169	single	barrier	no	no	yes	no	yes	scanty	thin	greyish white	yes
170	single	barrier	yes	yes	yes	no	no	scanty	thick	greyish white	no

S.NO	LOCAL EXAMINATION	PER SPECULUM	vaginal pH	RBS	PAP SMEAR	VAGINAL CULTURE	KOH SMEAR
86	excoriation	greenish yellow	>4.5	raised	NA	no growth	negative smear
87	normal	greyish white	>4.5	raised	NILM	others	negative smear with fishy odour
88	vulvitis	greyish white	>4.5	normal	NILM	others	negative smear with fishy odour
89	excoriation	greenish yellow	>4.5	normal	NILM	no growth	negative smear
90	normal	greyish white	>4.5	raised	NILMatrophic smears	no growth	negative smear with fishy odour
91	vulvitis	curdy white discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
92	vulval swelling	curdy white discharge	<4.5	normal	NILM pseudohyphae present	candida	BYLC with pseudohyphae
93	normal	greyish white	>4.5	raised	NILM	No growth	negative smear
94	vulvitis	curdy white discharge	>4.5	normal	NILM	candida	BYLC with pseudohyphae
95	vulval swelling	altered discharge	>4.5	normal	NILM	no growth	negative smear with fishy odour
96	vulvitis	blood stained	>4.5	normal	NILM	No growth	negative smear
97	normal	altered discharge	>4.5	raised	NILM	no growth	negative smear with fishy odour
98	vulvitis	curdy white discharge	>4.5	normal	NILM pseudohyphae present	candida	BYLC with pseudohyphae
99	excoriation	normal	<4.5	normal	NILM	others	negative smear
100	vulvitis	altered discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
101	vulval swelling	greyish white	>4.5	normal	NILM	no growth	negative smear with fishy odour
102	normal	greyish white	>4.5	raised	NILMatrophic smears	no growth	negative smear with fishy odour
103	normal	greyish white	>4.5	normal	NILM	others	negative smear with fishy odour
104	vulvitis	curdy white discharge	<4.5	raised	NILMpseudohyphae	candida	BYLC with pseudohyphae
105	excoriation	greenish yellow	<4.5	normal	NILM	No growth	negative smear
106	vulval swelling	greenish yellow	<4.5	raised	NILM	No growth	negative smear
107	vulvitis	curdy white discharge	<4.5	normal	NILM pseudohyphae present	candida	BYLC with pseudohyphae
108	normal	greyish white	>4.5	raised	NA	No growth	BYLC with pseudohyphae
109	normal	altered discharge	>4.5	raised	NILM	no growth	negative smear
110	vulvitis	curdy white discharge	<4.5	raised	NILM pseudohyphae present	candida	BYLC with pseudohyphae
111	normal	altered discharge	>4.5	normal	NILM	No growth	negative smear with fishy odour
112	vulvitis	curdy white discharge	<4.5	raised	NILM pseudohyphae present	no growth	BYLC with pseudohyphae
113	normal	blood stained	>4.5	raised	NILM,BV	others	negative smear
114	vulvitis	curdy white discharge	<4.5	normal	NILM	candida	BYLC with pseudohyphae
115	vulvitis	altered discharge	>4.5	normal	NILM	candida	BYLC with pseudohyphae
116	vulvitis	curdy white discharge	<4.5	raised	NILM	no growth	BYLC with pseudohyphae
117	excoriation	curdy white discharge	>4.5	raised	NILMpseudohyphae	candida	BYLC with pseudohyphae
118	vulvitis	greyish white	>4.5	normal	NILM	no growth	negative smear with fishy odour
119	normal	greyish white	>4.5	raised	NILM	others	negative smear with fishy odour
120	normal	altered discharge	>4.5	normal	NILM	no growth	negative smear
121	excoriation	greenish yellow	<4.5	normal	NILM	No growth	negative smear
122	vulval swelling	blood stained	>4.5	raised	NILM	No growth	BYLC with pseudohyphae
123	normal	normal	>4.5	raised	NA	no growth	negative smear with fishy odour
124	normal	altered discharge	>4.5	normal	NA	no growth	negative smear
125	vulvitis	curdy white discharge	<4.5	normal	NILMpseudohyphae	candida	BYLC with pseudohyphae
126	normal	greyish white	>4.5	normal	NA	no growth	negative smear with fishy odour
127	vulvitis	curdy white discharge	<4.5	raised	NILMpseudohyphae	candida	BYLC with pseudohyphae
128	vulvitis	curdy white discharge	>4.5	raised	NILM	candida	BYLC with pseudohyphae
129	vulvitis	curdy white discharge	>4.5	raised	NILM	candida	BYLC with pseudohyphae
130	vulvitis	normal	>4.5	normal	NILM	others	negative smear with fishy odour
131	normal	greyish white	>4.5	raised	NILM	no growth	negative smear
132	vulvitis	curdy white discharge	>4.5	normal	NILM	candida	BYLC with pseudohyphae
133	excoriation	greenish yellow	<4.5	raised	NILM	others	negative smear
134	normal	greyish white	>4.5	normal	NA	no growth	negative smear with fishy odour
135	normal	greyish white	>4.5	normal	NILM,BV	no growth	negative smear with fishy odour
136	normal	blood stained	>4.5	raised	NILM	candida	BYLC with pseudohyphae
137	normal	greyish white	>4.5	normal	NILM	no growth	negative smear
138	excoriation	greenish yellow	>4.5	normal	NA	no growth	negative smear
139	vulval swelling	altered discharge	<4.5	normal	NA	no growth	negative smear
140	normal	greyish white	>4.5	raised	NILM,BV	No growth	negative smear with fishy odour
141	excoriation	greenish yellow	>4.5	raised	NILM	others	negative smear
142	normal	greyish white	>4.5	normal	NILM	no growth	negative smear
143	vulval swelling	altered discharge	>4.5	normal	NILM	no growth	negative smear
144	normal	greyish white	>4.5	normal	NILM	No growth	negative smear with fishy odour
145	normal	curdy white discharge	>4.5	normal	NILM	others	negative smear
146	normal	greyish white	>4.5	raised	NA	no growth	negative smear with fishy odour
147	normal	greyish white	>4.5	normal	NILM	no growth	negative smear
148	vulval swelling	curdy white discharge	<4.5	normal	NILM	no growth	negative smear
149	vulvitis	curdy white discharge	<4.5	raised	NA	candida	BYLC with pseudohyphae
150	normal	greyish white	>4.5	normal	NA	no growth	negative smear with fishy odour
151	vulvitis	curdy white discharge	<4.5	raised	NILM	no growth	BYLC with pseudohyphae
152	normal	greyish white	>4.5	normal	NILM,BV	no growth	negative smear with fishy odour
153	vulvitis	curdy white discharge	<4.5	raised	NILMpseudohyphae	candida	BYLC with pseudohyphae
154	normal	greyish white	>4.5	normal	NA	no growth	negative smear with fishy odour
155	vulval swelling	greenish yellow	>4.5	normal	NA	no growth	negative smear
156	vulvitis	altered discharge	>4.5	normal	NILM	candida	BYLC with pseudohyphae
157	vulval swelling	greenish yellow	>4.5	normal	NILM	no growth	BYLC with pseudohyphae
158	normal	greyish white	>4.5	raised	NILM,BV	no growth	negative smear with fishy odour
159	vulval atrophy	greenish yellow	>4.5	normal	NILM	no growth	negative smear
160	normal	greyish white	>4.5	raised	NA	no growth	negative smear with fishy odour
161	vulvitis	curdy white discharge	<4.5	normal	NILMpseudohyphae	candida	BYLC with pseudohyphae
162	normal	greyish white	>4.5	normal	NILM,BV	No growth	negative smear
163	vulvitis	curdy white discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
164	normal	altered discharge	>4.5	normal	NILM	No growth	negative smear
165	vulvitis	altered discharge	>4.5	normal	NILM	others	negative smear
166	vulvitis	altered discharge	<4.5	raised	NILM	no growth	BYLC with pseudohyphae
167	vulvitis	normal	<4.5	normal	NILM	candida	BYLC with pseudohyphae
168	normal	altered discharge	>4.5	normal	NILM	no growth	BYLC with pseudohyphae
169	normal	greyish white	>4.5	normal	NA	no growth	BYLC with pseudohyphae
170	vulval swelling	greyish white	>4.5	raised	NA	no growth	negative smear

S.NO	WET MOUNT	CBNAAT : CT/NG	GRAM STAIN	DIAGNOSIS
86	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
87	negative	not done	gram negative coccobacilli	bacterial vaginosis
88	negative	not done	gram negative coccobacilli	bacterial vaginosis
89	negative	not done	gram positive bacilli	trichomoniasis
90	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
91	negative	not done	pseudohyphae	Vulvovaginal candidiasis
92	BYLC with pseudohyphae	not done	gram positive bacilli	Vulvovaginal candidiasis
93	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
94	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
95	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
96	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
97	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
98	BYLC with pseudohyphae	not done	gram positive bacilli	Vulvovaginal candidiasis
99	negative	not done	gram positive bacilli	trichomoniasis
100	pear shaped trophozoite with jerky motility	not done	gram negative coccobacilli with pseudohyphae	BV+VVC + trichomoniasis
101	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
102	negative	not done	gram negative coccobacilli	bacterial vaginosis
103	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
104	negative	not done	pseudohyphae	Vulvovaginal candidiasis
105	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
106	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
107	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
108	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
109	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
110	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
111	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
112	negative	not done	pseudohyphae	Vulvovaginal candidiasis
113	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
114	BYLC with pseudohyphae	not done	gram positive bacilli	Vulvovaginal candidiasis
115	BYLC with pseudohyphae with clue cells	not done	gram negative coccobacilli with pseudohyphae	BV+VVC + trichomoniasis
116	negative	not done	pseudohyphae	Vulvovaginal candidiasis
117	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
118	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
119	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
120	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
121	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
122	BYLC with pseudohyphae with clue cells	not done	gram negative coccobacilli with pseudohyphae	BV+VVC + trichomoniasis
123	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
124	clue cells with PMN's	not done	gram positive bacilli	bacterial vaginosis
125	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
126	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
127	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
128	negative	not done	pseudohyphae	Vulvovaginal candidiasis
129	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
130	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
131	clue cells with PMN's	not done	gram positive bacilli	bacterial vaginosis
132	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
133	pear shaped trophozoite with jerky motility	not done	gram positive bacilli	trichomoniasis
134	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
135	negative	not done	gram positive bacilli	bacterial vaginosis
136	BYLC with pseudohyphae with clue cells	not done	gram negative coccobacilli with pseudohyphae	BV+VVC + trichomoniasis
137	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
138	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
139	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
140	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
141	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
142	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
143	negative	positive	gram positive bacilli	others
144	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
145	negative	positive	gram positive bacilli	others
146	negative	not done	gram negative coccobacilli	bacterial vaginosis
147	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
148	negative	negative	gram positive bacilli	others
149	negative	not done	pseudohyphae	Vulvovaginal candidiasis
150	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
151	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
152	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
153	negative	not done	gram positive bacilli	Vulvovaginal candidiasis
154	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
155	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
156	BYLC with pseudohyphae with clue cells	not done	gram negative coccobacilli with pseudohyphae	BV + VVC
157	negative	not done	flagella with axostyle	trichomoniasis
158	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
159	negative	negative	gram positive bacilli	others
160	negative	not done	gram negative coccobacilli	bacterial vaginosis
161	negative	not done	pseudohyphae	Vulvovaginal candidiasis
162	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
163	negative	not done	pseudohyphae	Vulvovaginal candidiasis
164	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
165	negative	negative	gram positive bacilli	others
166	negative	not done	pseudohyphae	Vulvovaginal candidiasis
167	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
168	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
169	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
170	negative	not done	gram positive bacilli	others

S.NO	NAME	AGE GROUP	MRD NO	AGE (YEARS)	LMP	MARITAL STATUS	PARITY	PREGNANCY	EDUCATION	OCCUPATION	RESIDENCE	SOCIO-ECONOMIC STATUS
171	DS	26-35	353535	34	27/04/2023	married	multiparous	yes	post graduate	housewife	urban	upper middle
172	CF	36-45	357745	42	22/03/2023	married	multiparous	no	post graduate	housewife	urban	lower middle
173	DR	26-35	353538	28	18/08/2023	married	primi	no	graduate	unemployed	urban	upper lower
174	SE	36-45	354576	44	15/08/2023	married	multiparous	no	post graduate	employed	urban	upper lower
175	BH	36-45	588754	39	04/07/2023	married	nulli	no	graduate	employed	urban	lower class
176	GT	46-55	356554	48	05/08/2023	divorced	multiparous	no	post graduate	employed	rural	lower middle
177	D	26-35	354743	31	03/03/2023	married	nulli	no	undergraduate	housewife	urban	lower class
178	H	26-35	236896	31	25/06/2023	married	nulli	yes	undergraduate	housewife	urban	lower class
179	F	26-35	347887	32	18/04/2023	married	nulli	no	post graduate	housewife	urban	upper middle
180	J	18-25	445678	24	20/08/2023	married	nulli	no	graduate	housewife	urban	upper lower
181	HK	46-55	378908	47	30/12/2022	married	multiparous	no	undergraduate	housewife	urban	lower class
182	JS	26-35	456734	32	23/12/2022	married	primi	yes	post graduate	employed	urban	upper middle
183	MA	36-45	256432	44	27/11/2022	widow	multiparous	no	graduate	employed	urban	upper lower
184	N	26-35	256753	32	04/05/2023	married	multiparous	no	graduate	unemployed	rural	lower middle
185	G	36-45	246432	41	05/07/2023	widow	multiparous	no	graduate	employed	urban	upper lower
186	H	26-35	135753	32	29/05/2023	divorced	nulli	no	post graduate	employed	urban	upper lower
187	PT	36-45	246432	41	15/06/2023	married	multiparous	no	graduate	employed	urban	lower class
188	F	26-35	246674	28	02/06/2023	married	multiparous	yes	post graduate	employed	urban	upper lower
189	MC	26-35	246744	31	12/08/2023	married	multiparous	no	graduate	unemployed	urban	upper lower
190	B	36-45	246743	38	22/05/2023	married	multiparous	no	graduate	employed	rural	lower middle
191	F	26-35	246754	32	05/11/2022	married	primi	yes	graduate	unemployed	urban	lower middle
192	AT	18-25	147896	20	06/02/2023	married	primi	yes	graduate	unemployed	urban	lower middle
193	SR	26-35	276543	29	25/05/2023	married	primi	no	graduate	unemployed	urban	lower class
194	B	46-55	245778	54	05/04/2023	widow	multiparous	no	undergraduate	employed	urban	upper lower
195	G	26-35	368754	34	15/04/2023	married	multiparous	no	post graduate	housewife	urban	lower middle
196	FT	56-60	247865	58	25/10/2022	widow	multiparous	no	undergraduate	employed	urban	lower class
197	FR	26-35	346865	34	05/04/2023	married	primi	no	post graduate	employed	rural	upper class
198	S	36-45	326778	42	04/03/2023	divorced	nulli	no	post graduate	employed	urban	upper lower
199	D	36-45	456875	43	04/04/2023	married	nulli	no	undergraduate	housewife	urban	lower class
200	F	26-35	355456	28	15/03/2023	married	primi	yes	post graduate	employed	urban	upper lower
201	TU	18-25	567654	23	06/08/2023	married	nulli	no	graduate	unemployed	rural	lower middle
202	FR	46-55	349595	48	01/01/2023	married	multiparous	no	undergraduate	housewife	urban	upper lower
203	O	46-55	453234	49	12/12/2022	married	multiparous	no	undergraduate	housewife	urban	lower class
204	RA	36-45	245666	40	04/08/2023	married	multiparous	no	graduate	housewife	urban	upper lower
205	RI	46-55	345646	51	16/08/2023	married	primi	no	undergraduate	employed	urban	lower class
206	DK	18-25	329804	24	22/05/2023	married	multiparous	no	graduate	unemployed	urban	lower class
207	JK	36-45	345654	42	10/08/2023	married	multiparous	no	undergraduate	housewife	urban	lower class
208	JR	36-45	235423	43	24/04/2023	married	nulli	no	undergraduate	housewife	rural	lower class
209	G	18-25	238920	24	10/05/2023	married	primi	yes	graduate	unemployed	urban	lower class
210	H	18-25	346533	19	20/11/2022	married	primi	no	graduate	employed	urban	upper lower
211	F	36-45	256674	38	08/09/2022	married	primi	no	graduate	employed	urban	upper lower
212	R	26-35	354667	28	05/04/2023	married	primi	yes	undergraduate	employed	urban	upper lower
213	AS	36-45	267545	42	05/02/2023	married	multiparous	no	undergraduate	housewife	rural	lower class
214	RC	26-35	245764	33	17/05/2023	married	primi	yes	graduate	housewife	urban	upper lower
215	RS	18-25	245654	23	04/04/2023	married	primi	no	post graduate	employed	urban	lower middle
216	SJ	36-45	378954	42	13/03/2023	married	multiparous	no	graduate	housewife	urban	upper lower
217	SG	46-55	346543	54	03/02/2023	married	multiparous	no	undergraduate	employed	urban	lower class
218	ST	26-35	456786	32	15/06/2023	married	multiparous	yes	post graduate	employed	rural	upper class
219	SY	18-25	346754	24	05/05/2023	married	multiparous	no	graduate	employed	urban	upper lower
220	YK	26-35	256785	33	17/08/2023	married	primi	yes	post graduate	employed	urban	upper lower
221	RM	36-45	345787	44	08/05/2023	married	multiparous	no	graduate	housewife	urban	upper lower
222	VM	36-45	389024	38	13/03/2023	divorced	nulli	no	undergraduate	employed	urban	lower class
223	NM	18-25	431246	24	15/04/2023	married	primi	yes	graduate	employed	rural	upper lower
224	G	26-35	237658	32	14/08/2023	married	multiparous	no	post graduate	employed	urban	upper lower
225	R	36-45	357654	43	25/05/2023	married	multiparous	no	undergraduate	housewife	urban	lower class
226	RP	36-45	346785	41	02/02/2023	married	nulli	no	graduate	unemployed	urban	upper lower
227	KP	26-35	346432	32	04/05/2023	married	primi	yes	post graduate	employed	urban	upper middle
228	AK	36-45	289034	44	16/04/2023	married	multiparous	no	graduate	housewife	urban	upper lower
229	AS	56-60	235674	58	15/07/2023	married	multiparous	no	undergraduate	housewife	urban	lower class
230	SS	36-45	346785	41	05/05/2023	married	nulli	no	undergraduate	housewife	rural	upper lower
231	SR	26-35	389867	28	19/08/2023	married	primi	no	graduate	unemployed	urban	lower class
232	ST	36-45	203985	38	11/07/2023	married	multiparous	yes	graduate	employed	urban	upper lower
233	SP	36-45	420938	42	22/05/2023	married	multiparous	no	undergraduate	housewife	urban	lower class
234	SO	26-35	205789	31	04/05/2023	divorced	nulli	no	graduate	unemployed	urban	lower class
235	YK	18-25	239053	20	17/07/2023	married	primi	no	graduate	employed	urban	upper lower
236	GR	18-25	267532	21	05/05/2023	married	multiparous	yes	graduate	housewife	rural	upper lower
237	RO	36-45	267654	42	14/04/2023	married	multiparous	no	undergraduate	housewife	urban	upper lower
238	RP	26-35	276865	30	10/03/2023	divorced	primi	no	post graduate	employed	urban	upper middle
239	RA	36-45	235754	40	31/03/2023	married	multiparous	no	graduate	employed	urban	upper lower
240	F	18-25	256743	23	30/04/2023	married	nulli	no	graduate	unemployed	urban	upper lower
241	LS	36-45	247543	44	04/07/2023	divorced	multiparous	no	graduate	employed	urban	upper lower
241	JK	36-45	245678	41	16/08/2023	married	multiparous	no	graduate	housewife	urban	lower middle
243	GS	26-35	245674	28	13/08/2023	married	nulli	no	post graduate	employed	urban	upper class
244	GR	36-45	298076	36	04/07/2023	married	multiparous	yes	post graduate	employed	rural	upper lower
245	DT	18-25	237854	20	05/03/2023	married	primi	yes	undergraduate	housewife	urban	upper class
246	DS	26-35	266533	32	30/11/2022	divorced	primi	no	graduate	employed	urban	upper lower
247	CS	36-45	278909	39	24/04/2023	married	multiparous	no	undergraduate	housewife	urban	lower class
248	DP	36-45	346786	40	18/03/2023	married	multiparous	no	undergraduate	housewife	urban	lower class
249	CT	36-45	238904	45	15/07/2023	married	multiparous	no	undergraduate	housewife	rural	lower class
250	CR	18-25	209867	25	25/08/2023	married	multiparous	yes	graduate	unemployed	rural	lower class

S.NO	NUMBER OF SEXUAL PARTNERS	CONTRACEPTION	DOUCHING	DIABETES	SANITARY NAPKIN REUSE	ITCHING	BURNING	AMOUNT	CONSISTENCY	COLOR	MALODOR
171	multiple	OCP's	yes	yes	yes	yes	no	scanty	thick	curdy white	yes
172	multiple	IUCD	no	yes	No	yes	no	scanty	thick	curdy white	yes
173	single	OCP's	no	no	No	no	no	profuse	thin	greyish white	yes
174	single	IUCD	yes	no	yes	no	yes	scanty	thin	greyish white	no
175	multiple	OCP's	yes	yes	No	yes	no	scanty	thick	curdy white	no
176	single	none	no	yes	yes	no	no	scanty	thin	greyish white	no
177	multiple	OCP's	yes	yes	No	yes	yes	profuse	thick	curdy white	yes
178	single	none	yes	no	No	no	yes	scanty	thin	greyish white	no
179	multiple	barrier	yes	yes	yes	yes	no	scanty	thick	curdy white	yes
180	single	barrier	yes	no	No	no	no	scanty	thin	greyish white	yes
181	multiple	barrier	no	yes	No	yes	yes	scanty	thick	curdy white	yes
182	single	none	yes	no	No	no	no	scanty	thick	greyish white	yes
183	multiple	none	no	yes	No	yes	yes	scanty	thick	curdy white	yes
184	single	barrier	yes	no	No	no	no	scanty	thin	greyish white	yes
185	multiple	none	yes	yes	yes	yes	yes	scanty	thick	curdy white	no
186	multiple	OCP's	no	no	yes	no	no	profuse	thin	greyish white	no
187	single	OCP's	no	yes	No	yes	no	scanty	thick	curdy white	no
188	multiple	none	yes	no	No	no	no	profuse	thin	greenish yellow	yes
189	single	barrier	yes	no	yes	no	no	scanty	thin	greyish white	yes
190	multiple	barrier	yes	yes	yes	yes	no	profuse	thick	curdy white	no
191	multiple	none	yes	yes	yes	no	no	profuse	thick	curdy white	no
192	single	none	yes	no	No	no	no	scanty	thin	greyish white	yes
193	single	barrier	yes	yes	No	yes	no	scanty	thick	greyish white	yes
194	single	none	yes	yes	yes	yes	no	scanty	thick	curdy white	no
195	single	barrier	yes	no	No	no	no	scanty	thin	greyish white	yes
196	single	none	yes	no	No	no	yes	profuse	thin	greenish yellow	yes
197	single	OCP's	yes	no	No	yes	yes	profuse	thick	greyish white	yes
198	multiple	none	yes	yes	yes	yes	no	scanty	thin	curdy white	no
199	multiple	barrier	yes	yes	yes	no	no	scanty	thick	curdy white	no
200	single	none	yes	no	yes	no	no	scanty	thin	greyish white	yes
201	single	OCP's	yes	no	yes	no	no	profuse	thin	greyish white	yes
202	multiple	barrier	yes	yes	No	yes	no	scanty	thick	curdy white	no
203	single	barrier	yes	no	yes	no	no	scanty	thin	greyish white	yes
204	multiple	barrier	yes	yes	yes	yes	yes	scanty	thick	curdy white	no
205	single	depo	yes	no	No	no	no	scanty	thin	greyish white	yes
206	multiple	OCP's	yes	yes	No	yes	no	profuse	thick	curdy white	no
207	multiple	depo	yes	no	yes	no	no	scanty	thin	greyish white	yes
208	multiple	IUCD	yes	no	yes	no	no	scanty	thin	greyish white	yes
209	multiple	none	yes	yes	yes	yes	no	scanty	thick	curdy white	yes
210	multiple	OCP's	yes	no	yes	yes	no	profuse	thin	greenish yellow	yes
211	single	OCP's	yes	no	yes	no	no	scanty	thick	greyish white	yes
212	multiple	none	yes	yes	No	no	no	profuse	thick	curdy white	no
213	single	barrier	yes	no	No	no	no	scanty	thin	greyish white	yes
214	multiple	none	yes	yes	yes	yes	no	scanty	thick	curdy white	no
215	single	barrier	yes	yes	yes	no	no	scanty	thin	greyish white	yes
216	multiple	depo	yes	no	No	yes	yes	profuse	thick	curdy white	no
217	single	barrier	no	no	yes	no	no	scanty	thin	greyish white	no
218	multiple	none	yes	yes	yes	yes	yes	scanty	thick	curdy white	no
219	multiple	OCP's	yes	yes	yes	no	no	scanty	thick	curdy white	no
220	multiple	none	no	yes	yes	yes	no	scanty	thick	curdy white	no
221	multiple	IUCD	yes	yes	yes	no	yes	scanty	thick	curdy white	no
222	multiple	none	no	yes	No	yes	no	scanty	thin	curdy white	yes
223	single	none	yes	no	No	no	no	profuse	thin	greyish white	yes
224	single	OCP's	yes	no	yes	no	no	scanty	thin	greyish white	yes
225	multiple	OCP's	yes	yes	No	yes	no	scanty	thick	curdy white	no
226	multiple	OCP's	yes	yes	No	yes	no	scanty	thick	curdy white	yes
227	single	OCP's	no	no	yes	no	no	scanty	thin	altered color	no
228	multiple	OCP's	yes	yes	yes	yes	no	scanty	thick	curdy white	no
229	single	depo	yes	no	No	no	yes	profuse	thin	greyish white	yes
230	multiple	OCP's	yes	yes	No	yes	yes	scanty	thick	curdy white	yes
231	single	barrier	yes	no	yes	no	no	scanty	thin	greyish white	no
232	single	none	yes	no	yes	no	no	scanty	thin	greyish white	no
233	multiple	barrier	yes	yes	No	no	no	profuse	thick	curdy white	yes
234	single	none	yes	yes	yes	no	no	scanty	thin	greyish white	no
235	multiple	barrier	no	yes	yes	yes	no	profuse	thick	curdy white	yes
236	single	emergency pills	yes	no	No	no	no	scanty	thin	greyish white	no
237	multiple	depo	yes	yes	yes	no	no	scanty	thick	curdy white	no
238	multiple	OCP's	yes	yes	yes	no	no	scanty	thick	curdy white	no
239	multiple	barrier	yes	no	No	yes	no	profuse	thin	curdy white	yes
240	single	barrier	yes	no	yes	no	no	scanty	thin	greyish white	yes
241	single	none	yes	no	yes	no	no	profuse	thin	greyish white	yes
241	multiple	depo	yes	yes	yes	yes	yes	scanty	thick	curdy white	no
243	single	OCP's	yes	no	No	no	yes	scanty	thin	greyish white	yes
244	multiple	none	yes	yes	No	yes	no	scanty	thick	curdy white	yes
245	multiple	none	no	yes	yes	no	no	scanty	thin	greyish white	no
246	single	none	yes	yes	yes	no	yes	scanty	thin	greyish white	yes
247	single	IUCD	yes	yes	No	no	no	scanty	thick	curdy white	yes
248	multiple	IUCD	yes	yes	yes	no	no	scanty	thick	curdy white	no
249	multiple	depo	yes	yes	yes	yes	yes	profuse	thick	curdy white	yes
250	multiple	none	yes	yes	yes	no	yes	scanty	thick	curdy white	no

S.NO	LOCAL EXAMINATION	PER SPECULUM	vaginal pH	RBS	PAP SMEAR	VAGINAL CULTURE	KOH SMEAR
171	vulvitis	altered discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
172	vulvitis	normal	<4.5	raised	NILM	candida	BYLC with pseudohyphae
173	normal	greyish white	>4.5	normal	NILM	No growth	BYLC with pseudohyphae
174	excoriation	normal	>4.5	normal	Others	no growth	negative smear
175	vulvitis	curdy white discharge	<4.5	raised	NILM	no growth	BYLC with pseudohyphae
176	vulval atrophy	altered discharge	>4.5	normal	NA	others	negative smear
177	vulvitis	curdy white discharge	<4.5	normal	NILM	candida	BYLC with pseudohyphae
178	normal	greyish white	<4.5	normal	NILM	no growth	negative smear with fishy odour
179	normal	curdy white discharge	>4.5	raised	NILM	candida	BYLC with pseudohyphae
180	vulvitis	normal	>4.5	normal	NILMpseudohyphae	candida	BYLC with pseudohyphae
181	vulvitis	curdy white discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
182	normal	greyish white	>4.5	normal	NA	no growth	negative smear
183	vulvitis	curdy white discharge	<4.5	normal	NILM	candida	BYLC with pseudohyphae
184	normal	greyish white	<4.5	normal	NILM	No growth	negative smear with fishy odour
185	vulvitis	curdy white discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
186	normal	altered discharge	>4.5	normal	NILM	No growth	negative smear with fishy odour
187	vulvitis	curdy white discharge	>4.5	raised	NILM	candida	BYLC with pseudohyphae
188	excoriation	greenish yellow	>4.5	normal	NILM	no growth	negative smear
189	normal	altered discharge	>4.5	normal	NILM	no growth	negative smear with fishy odour
190	normal	curdy white discharge	<4.5	raised	NA	no growth	BYLC with pseudohyphae
191	vulvitis	curdy white discharge	<4.5	normal	NILM	others	BYLC with pseudohyphae
192	normal	greyish white	>4.5	normal	NILM	No growth	negative smear with fishy odour
193	normal	greyish white	>4.5	raised	NILM	No growth	negative smear
194	vulvitis	curdy white discharge	>4.5	raised	NILMatrophic smears	candida	BYLC with pseudohyphae
195	normal	greyish white	>4.5	normal	NA	no growth	negative smear
196	excoriation	greenish yellow	>4.5	normal	NILM atrophic smear	no growth	negative smear
197	normal	greyish white	>4.5	normal	NA	no growth	negative smear with fishy odour
198	vulvitis	curdy white discharge	>4.5	raised	NA	no growth	BYLC with pseudohyphae
199	vulvitis	curdy white discharge	>4.5	normal	NILMpseudohyphae	no growth	BYLC with pseudohyphae
200	normal	greyish white	>4.5	normal	NILM	No growth	negative smear
201	normal	greyish white	>4.5	normal	NILM	no growth	negative smear
202	vulvitis	curdy white discharge	<4.5	raised	NILM	no growth	BYLC with pseudohyphae
203	normal	greyish white	>4.5	normal	NILM	no growth	negative smear with fishy odour
204	vulvitis	curdy white discharge	>4.5	raised	NILMpseudohyphae	candida	BYLC with pseudohyphae
205	normal	greyish white	<4.5	normal	NILM	no growth	negative smear with fishy odour
206	vulvitis	curdy white discharge	<4.5	raised	NILMpseudohyphae	candida	BYLC with pseudohyphae
207	normal	greyish white	<4.5	normal	NILM	no growth	negative smear with fishy odour
208	normal	greyish white	<4.5	raised	NILM	no growth	negative smear with fishy odour
209	normal	curdy white discharge	<4.5	raised	NILMpseudohyphae	no growth	BYLC with pseudohyphae
210	excoriation	greenish yellow	>4.5	normal	NA	No growth	negative smear
211	normal	greyish white	<4.5	normal	NILM	no growth	negative smear with fishy odour
212	vulvitis	curdy white discharge	<4.5	raised	NILM	no growth	BYLC with pseudohyphae
213	normal	greyish white	<4.5	normal	NILM	no growth	negative smear with fishy odour
214	vulvitis	curdy white discharge	<4.5	raised	NILM	no growth	BYLC with pseudohyphae
215	normal	greyish white	>4.5	raised	NILM	no growth	negative smear with fishy odour
216	vulvitis	curdy white discharge	<4.5	normal	NILMpseudohyphae	candida	BYLC with pseudohyphae
217	normal	greyish white	>4.5	normal	NILM	no growth	negative smear with fishy odour
218	vulvitis	altered discharge	<4.5	raised	NILMpseudohyphae	candida	BYLC with pseudohyphae
219	vulvitis	altered discharge	<4.5	raised	NILMpseudohyphae	candida	BYLC with pseudohyphae
220	vulval swelling	blood stained	<4.5	raised	NILMpseudohyphae	no growth	BYLC with pseudohyphae
221	vulvitis	normal	<4.5	normal	NILMpseudohyphae	no growth	BYLC with pseudohyphae
222	normal	normal	<4.5	raised	NILMpseudohyphae	candida	BYLC with pseudohyphae
223	normal	greyish white	>4.5	normal	NILM,BV	no growth	negative smear
224	normal	altered discharge	>4.5	normal	NILM	no growth	negative smear with fishy odour
225	normal	curdy white discharge	<4.5	raised	NILM	no growth	BYLC with pseudohyphae
226	vulvitis	curdy white discharge	<4.5	normal	NILM	no growth	BYLC with pseudohyphae
227	normal	greyish white	>4.5	raised	NILM,BV	no growth	negative smear
228	normal	curdy white discharge	<4.5	raised	NILMpseudohyphae	candida	BYLC with pseudohyphae
229	normal	greyish white	<4.5	normal	NILM	no growth	negative smear with fishy odour
230	vulvitis	curdy white discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
231	normal	greyish white	<4.5	normal	NILM	No growth	negative smear with fishy odour
232	normal	greyish white	<4.5	normal	NILM	No growth	negative smear with fishy odour
233	vulval swelling	curdy white discharge	<4.5	raised	NILMpseudohyphae	no growth	BYLC with pseudohyphae
234	normal	altered discharge	>4.5	raised	NILM	others	negative smear
235	normal	curdy white discharge	<4.5	normal	NILM	candida	BYLC with pseudohyphae
236	vulvitis	greyish white	<4.5	normal	NILM	no growth	negative smear with fishy odour
237	normal	curdy white discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
238	vulvitis	curdy white discharge	<4.5	raised	NA	candida	BYLC with pseudohyphae
239	normal	curdy white discharge	<4.5	normal	NA	no growth	BYLC with pseudohyphae
240	normal	altered discharge	>4.5	normal	NILM	no growth	negative smear with fishy odour
241	normal	greyish white	<4.5	normal	NILM	no growth	negative smear with fishy odour
241	vulvitis	curdy white discharge	<4.5	normal	NILMpseudohyphae	candida	BYLC with pseudohyphae
243	normal	greyish white	<4.5	normal	NILM	no growth	negative smear with fishy odour
244	vulvitis	curdy white discharge	<4.5	raised	NILM	candida	BYLC with pseudohyphae
245	normal	greyish white	<4.5	normal	NILM	no growth	negative smear with fishy odour
246	normal	normal	>4.5	normal	NILM	no growth	negative smear with fishy odour
247	vulvitis	curdy white discharge	<4.5	raised	NILMpseudohyphae	no growth	BYLC with pseudohyphae
248	normal	normal	>4.5	normal	NILM	candida	BYLC with pseudohyphae
249	vulvitis	curdy white discharge	<4.5	normal	NILMpseudohyphae	candida	BYLC with pseudohyphae
250	vulvitis	curdy white discharge	<4.5	normal	NILM	candida	BYLC with pseudohyphae

S.NO	WET MOUNT	CBNAAT : CT/NG	GRAM STAIN	DIAGNOSIS
171	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
172	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
173	clue cells with PMN's	not done	gram negative bacilli	bacterial vaginosis
174	negative	negative	gram positive bacilli	others
175	negative	not done	pseudohyphae	Vulvovaginal candidiasis
176	negative	negative	gram positive bacilli	others
177	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
178	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
179	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
180	BYLC with pseudohyphae with clue cells	not done	gram negative coccobacilli with pseudohyphae	BV+VVC + trichomoniasis
181	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
182	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
183	negative	not done	pseudohyphae	Vulvovaginal candidiasis
184	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
185	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
186	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
187	negative	not done	pseudohyphae	Vulvovaginal candidiasis
188	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
189	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
190	BYLC with pseudohyphae	not done	gram positive bacilli	Vulvovaginal candidiasis
191	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
192	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
193	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
194	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
195	clue cells with PMN's	not done	gram positive bacilli	bacterial vaginosis
196	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
197	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
198	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
199	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
200	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
201	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
202	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
203	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
204	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
205	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
206	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
207	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
208	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
209	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
210	pear shaped trophozoite with jerky motility	not done	flagella with axostyle	trichomoniasis
211	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
212	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
213	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
214	negative	not done	pseudohyphae	Vulvovaginal candidiasis
215	negative	not done	gram negative coccobacilli	bacterial vaginosis
216	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
217	negative	not done	gram negative coccobacilli	bacterial vaginosis
218	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
219	negative	not done	pseudohyphae	Vulvovaginal candidiasis
220	negative	not done	pseudohyphae	Vulvovaginal candidiasis
221	negative	not done	gram positive bacilli	Vulvovaginal candidiasis
222	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
223	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
224	negative	not done	gram negative coccobacilli	bacterial vaginosis
225	negative	not done	pseudohyphae	Vulvovaginal candidiasis
226	negative	not done	pseudohyphae	Vulvovaginal candidiasis
227	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
228	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
229	clue cells with PMN's	negative	gram negative coccobacilli	bacterial vaginosis
230	negative	not done	gram positive bacilli	Vulvovaginal candidiasis
231	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
232	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
233	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
234	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
235	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
236	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
237	negative	not done	pseudohyphae	Vulvovaginal candidiasis
238	negative	not done	pseudohyphae	Vulvovaginal candidiasis
239	BYLC with pseudohyphae	not done	gram positive bacilli	Vulvovaginal candidiasis
240	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
241	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
241	negative	not done	pseudohyphae	Vulvovaginal candidiasis
243	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
244	negative	not done	gram positive bacilli	Vulvovaginal candidiasis
245	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
246	clue cells with PMN's	not done	gram negative coccobacilli	bacterial vaginosis
247	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
248	BYLC with pseudohyphae	not done	gram positive bacilli	Vulvovaginal candidiasis
249	BYLC with pseudohyphae	not done	pseudohyphae	Vulvovaginal candidiasis
250	negative	not done	pseudohyphae	Vulvovaginal candidiasis

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No. BFUHS/2K23p-TH/ 23 **Date** 1/1/24

The Principal
Dayanand Medical College & Hospital
Ludhiana

Subject:: Approval of Plan of Thesis.

This is to inform you that the Faculty of Medical Sciences in its meeting held on 25.09.2023 has approved the plan of thesis of **Janvi Singla**, a student of your college for **MD (Obstetrics & Gynaecology)** along with the names of Supervisor/Co-Supervisor as under:-

Topic Plan of Thesis
To study the clinical and etiological aspects of vulvovaginitis .

Supervisor
Dr. Suman Puri
Professor
Dept. of Obstetrics & Gynaecology

Co-Supervisor:-
Dr. Sandeep Puri
Professor
Dept. of Medicine

Co-Supervisor:-
Dr. Jaspriya Sandhu
Assoc. Professor
Dept. of Dermatology

The student may submit the thesis in triplicate alongwith the plan in triplicate also, to the Controller of Examinations, BFUHS, Faridkot, at least six months before the commencement of theory examination, if he/she is otherwise eligible to take the examination. He /She may be directed to attach a photocopy of this letter with the forwarding letter while submitting thesis in the University along with the letter of approval of University for change of supervisor/Co-Supervisor, change of topic, if any.

Controller of Examinations

Note :

1. *If any discrepancy found regarding topic of thesis or Supervisor/Co-Supervisor, inform undersigned within one month after issue of this letter.*

TO STUDY THE CLINICAL AND ETIOLOGICAL ASPECTS OF VULVOVAGINITIS

THESIS PROPOSAL

FOR APPROVAL OF SUBJECT OF THESIS TO BE SUBMITTED IN

PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

MD

IN

OBSTETRICS & GYNAECOLOGY

OF THE

BABA FARID UNIVERSITY OF HEALTH SCIENCES

FARIDKOT

OCTOBER, 2022

DR. JANVI SINGLA

DEPARTMENT OF OBSTETRICS & GYNAECOLOGY
DAYANAND MEDICAL COLLEGE AND HOSPITAL
LUDHIANA

ABSTRACT OF PLAN OF THESIS

Title	TO STUDY THE CLINICAL AND ETIOLOGICAL ASPECTS OF VULVOVAGINITIS
For the degree of	MS Obstetrics And Gynaecology
Name of the candidate	Dr. Janvi Singla
Supervisor	Dr. Suman Puri, Professor, Department Of Obstetrics & Gynaecology, Dmch, Ludhiana
Co-supervisor	Dr. Pooja Tandon, Associate Professor, Department of obstetrics & Gynaecology, Dmch, Ludhiana Dr. Sukhjot Kaur, Associate Professor, Department of Dermatology, Dmch Ludhiana
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Introduction: Genital tract infections pose series of public health changes for women. Vulvovagnitis is a common ailment which significantly impairs women's quality of life. The diagnosis is based on clinical examination alongwith microbiological tests.

Aim of Study: To study the clinical and etiological aspects of vulvovaginitis.

Materials & Methods: This is a tertiary hospital based cross sectional study which will be conducted on 250 women in department of obstetrics and gynaecology, DMC&H, Ludhiana. The data would be statistically analyzed to study the clinical and etiological aspects of vulvovaginitis.

Clinical Significance: Vulvovaginitis is a common issue with multifactorial etiology among women.

Keywords: vulvovaginal itching, candidiasis, vaginal discharge

(Signature) Candidate | (Signature) Co-supervisor | (Signature) Co-supervisor | (Signature) Supervisor | (Signature) Principal

CERTIFICATE OF FACILITIES AVAILABLE

This is to certify that the facilities for work on the subject of thesis titled **"TO STUDY THE CLINICAL AND ETIOLOGICAL ASPECTS OF VULVOVAGINITIS"** exist in the Department of Obstetrics and Gynaecology, DMC&H, Ludhiana and will be provided to be candidate of will be provided to the candidate. We will see that the data being included in the thesis are genuine and is collected by the candidate herself under our supervision and guidance.

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APPROVAL PROFORMA
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Likely date of appearing in PG examination	May/ June 2024
Date of enrollment	30th June, 2022
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Approved: Yes / No

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PROFORMA FOR REGISTRATION OF SUBJECT

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4	DATE OF ADMISSION OF COURSE	7TH MARCH 2022
5	TITLE OF THE TOPIC	CLINICAL AND ETIOLOGICAL STUDY OF VULVOVAGINITIS.

6. BRIEF RESUME OF THE INTENDED WORK

6.1 NEED FOR THE STUDY

Vulvovaginitis is one of the most common health issues among women of reproductive age group impairing their quality of life. It has a multifactorial etiology. It can be acute (<6weeks) or chronic (>6weeks). Changes in the vaginal environment like imbalance in the normal flora, unhygienic practices, improper menstrual hygiene, immunodeficinecies, allergy can lead to vulvovaginal itching.[1] Hormonal changes play important role in regulationg vulval epithelium by influencing vaginal ph and microflora. estrogen aids in the colonization of lactobacilli, thereby decreasing pH. Any imbalance in the naturally occurring microbiota may result in vulvovaginal infections.[2] Vaginitis is most commonly caused by bacteria, fungi or protozoa and is associated with altered vaginal discharge, itching and odour. Vaginal symptoms negatively impact patients in terms of discomfort and pain. Vaginal infections might lead to serious medical complications such as preterm labour, amniotic fluid infection, premature rupture of membranes and other complications during pregnancy.[3] Bacterial vaginosis is characterized by foul smelling, thin grayish discharge. Vulvovaginal candidiasis is characterized by thick curdy white discharge. Trichominiasis is characterized by greenish, frothy discharge. These infections might lead to PID, infertility, recurrent urinary tract infections, cervicitis, endometritis and increasing rates of sexually transmitted infections.[4] Recognising the numerous factors that contribute to the pathogenesis of vulvovaginitis is crucial for appropriate evaluation and management.

Often the underling cause has been neglected. Vaginitis is emerging as a global health problem.

Awareness to be created among females about the normal physiological and pathological discharge and the need for early intervention for the pathological discharge has to be counseled upon.[5] Therefore , the study aims to determine the clinical and etiological factors associated with various causes of vulvovaginits.

6.2 REVIEW OF LITERATURE:

Vulvovaginitis is defined as the inflammation or infection of the vagina.[6] It presents as a spectrum of symptoms including vaginal burning, itching, irritation, dysparenunia, vaginal odour and abnormal vaginal discharge with all its physical and socioeconomic discomforts, Vaginitis constitutes a medical enigma which deserves concern and attention.[7] Vulvovagnitis may significantly impact a women's quality of life, self esteem,productivity and sexual health.[8] Vaginitis is a global term for nonspecific syndrome and the condition has many etiologies, accurate differential diagonosis is essential for effective treatment. The most common causes are bacterial vaginosis,vulvovaginal candidiasis and trichomoniasis. Multiple infections can also co exist.. These infections if not treated or ignored could debilitate the patients and could become a source of infection for the neonate especially in women of child bearing age.[9,10] Vaginal discharge may originate from various causes- physiological, infective, inflammatory or iatrogenic. Vaginal discharge that suddenly differs in colour,odour or consistency, significantly increases or decreases in amount,may indicate an underlying problem like infection.[11,12] Bacterial vaginosis is one of the most common disease in women of reproductive age group.[13] It is not a true infectious or inflammatory state.[14] The normal vaginal secretions is mainly from sebaceous glands, sweat glands, bartholin glands and skene glands. The vaginal discharge maybe physiological or pathological. The normal vaginal flora with lactobacilli, colonise the vaginal epithelium and play role in defence against pathogens or infections, therefore maintaining the vaginal ph 3.8-4.5.[15,16] The acidic ph is estrogen dependent, falls after menopause to neutral or even alkalinity. Despite the control over the vaginal micro environment exerted by the lactobacilli,many other micro organisms can be cultivated from the vaginal samples of the healthy women. These organisms donot trigger a pathological state,but whe one class of them dominates, the resulting imbalance precludes to vaginosis/vaginits.[17] Bacterial vaginosis is characterized by change in the vaginal microbiota dominated by lactobacilli to polymicrobial anaerobe dominated

microbiota including gardnerella vaginalis,bacteroides,mobiluncus and peptostreptococcus.[18,19] Scoring can be determined using Nugent"s scoring system.[20] it is one of most common cause of abnormal vaginal discharge among women of reproductive age group,often following sexual intercourse and menses.[21] It often increases the risk of contracting sexually transmitted infections. Unfavourable outcomes of early pregnancy including premature ruptureof membranes, chorioamnionitis, preterm birth, spontaneous abortions and low birth weight can be exaggerated by Bacterial vaginosis during pregnancy.[22,23] The diagnosis of bacterial vaginosis is based on microscopy and clinical symptoms as reflected in Amsel"s criteria.[24] Amsel's criteria include any 3 out of 4: homogenous thin grey white discharge, >20% clue cells on microscopy, vaginal fluid ph>4.5, positive KOH whiff test result. Out of the 4, vaginal ph is the most sensitive criteria. Vulvovaginal candidiasis is most commonly caused by Candida albicans and other candida species including candida glabrata. Symptoms include vaginal discharge, itching, pain and swelling. Vulvar erythema and edema with excoriations are common findings.[25] The typical vaginal discharge in vulvovaginal candidiasis is often described as cottage cheese like in character. Women with Trichomoniasis may complain of yellowish green, foul smelling, frothy green discharge. Additionally, dysuria, dysparenunia, vulvar itching and pain may be found. The vulva maybe erythematous, edematous, excoriated and subepithelial haemorrhages or strawberry spots maybe observed on the vagina and cervix.[26] It is considered to be sexually transmittable, thereby increased risk for HIV acquisition,preterm births and other adverse events among pregnant women.

It is associated with an increased risk for pelvic inflammatory disease. Trichomoniasis might be diagnosed by wet mount microscopy. Microscopy plus clinical evaluation based diagnosis might lead to incorrect diagnosis and thereby persistence of symptoms.[27] Regular screening using microbiological methods should be promoted. Despite the availability of effective treatment regimes, recurrence is common. As molecular tests continue to become commercially available, the

limitations of microscopy in diagnosing the specific causes of vaginitis have become more salient. Molecular based diagnostic tests have shown to have superior sensitivity and specificity compared with conventional clinical assessment in diagnosing the common infectious cause of vaginitis.[28] Molecular methods offer a distinct advantage over traditional methods in diagnosing bacterial vaginosis. Nucleic acid amplification tests have high sensitivity in detecting trichomonas vaginalis over wet mount microscopy. Use of NAAT facilitates the detection of numerous vaginitis causing pathogens including candida, neisseria gonoorhoea, bacterial vaginosis, Chlamydia trachomatis from a single collected swab. Due to cost issues, NAAT should be reserved for patients with recurrent or resistant symptoms.[29] Awareness to be created among females about the normal physiological and pathological discharge and the need for early intervention and initiation of proper treatment. Accurate diagnosis is a cornerstone of effective treatment,yet misdiagnosis of this condition approaches 50% raising the risk of recurrence. Newer molecular tests have introduced the potential to transform the diagnosis of vaginitis- ensuring more accurate diagnosis and timely interventions, while reducing health care costs and enhancing patient's quality of life.[30] Vulvovaginitis may significantly impact a woman's wuality of life, self esteem, self image, productivity and sexual health.

6.3 AIM AND OBJECTIVE

To study the clinical and etiological aspects of vulvovaginitis.

7.0 MATERIALS AND METHODS

7.1 Source of Data

The study will be performed in the outpatient setting in the Department of Obstetrics and Gynaecology, Dayanand Medical College and Hospital, Ludhiana, which is a tertiary care hospital.

This will be a cross sectional study conducted on 250 women of age 18 and above.

7.2METHOD OF COLLECTION OF DATA

INCLUSION CRITERIA:

Study will be done on 250 women in the outpatient settings of obs & gynae department in Dayanand Medical College and Hospital.

-Females above age of 18-60 Years

- Sexually active women

-Vaginal discharge

-Vaginal itching

-No h/o antibiotic therapy in past 2 weeks.

EXCLUSION CRITERIA:

-Vaginal bleeding

-unmarried

-unable to provide vaginal specimens.

-Age<18years

-age >60years

STUDY SAMPLE

The study will be performed on 250 females in the outpatient setting of obs & gynae department of DMC&H, Ludhiana.

NUMBER OF CASES: 250

OUTCOME:

All patients fulfilling inclusion criteria will be recruited for study. Written and informed consent will be taken from all patients participating in the study.

A structured predesigned performa will be used for the study. A detailed history, physical examination and clinical assessment and relevant investigations will be done.

Primary clinical outcome of the study will be evaluated by studying the most common etiological factor for vulvovaginitis and the clinical manifestations.

Secondary outcome measures studied will be

1) Recurrence episodes
2) Quality of life

STATISTICAL ANALYSIS:

*their outcomes will be analyzed using appropriate statistical methods. Data will be described in terms of range; mean ±standard deviation (± SD), frequencies (number of cases) and relative frequencies (percentages) as appropriate. To study the clinical and etiological aspects causing vulvovaginitis. A probability value (p value) less than 0.05 will be considered statistically significant. All statistical calculations will be done using (Statistical Package for the Social Science) SPSS 21version (SPSS Inc., Chicago, IL, USA) statistical program for Microsoft Windows.

7.3 DOES THE STUDY REQUIRE ANY INVESTIGATIONS OR INTERVENTIONS TO BE CONDUCTED ON PATIENTS OR OTHER HUMANS OR ANIMALS? IF SO, PLEASE DESCRIBE BRIEFLY.

All the above mentioned investigations are routinely performed as per the hospital guidelines. Hence will not pose any financial burden on the patient

7.4 HAS ETHICAL CLEARANCE BEEN OBTAINED FROM YOUR INSTITUTION IN CASE OF 7.3?

Yes, Attached herewith

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PROFORMA

- NAME-
- AGE-
- LMP-
- MARITAL STATUS-married/unmarried/divorced
- SOCIOECONOMIC STATUS-
- Obs formula-
- EDUCATION-
- JOB-employed/housewife
- RESIDENCE-rural/urban
- PREGNANCYSTATUS-preg/not preg
- Diabetes – yes/no-
- Number of Sexual partner-
- HPV Vaccination status
- Past medical history-
- Past surgical history- d&c/cervical biopsy/cryotherapy/hysteropolypectomy/others
- H/o previous episodes-
- H/o allergy-
- H/o Immunodeficiencies-
- H/o contraception-

  Barrier methods

  Iucd-

  Hormonal Pills-

  Emergency Pills-

  OCP's-

  Depo-

  None-
- H/o Douching-
- H/o Reuse of sanitary napkins-

- Vulval Itching-
- Local examination-
- P/S- cervix-
  Vagina-
- Vaginal Discharge

Colour- greyish white/greenish-yellow/curdy white/blood stained/altered color

Consistency- thin/thick

Amount- scanty/profuse

Odor-foul smelling/non foul smelling

Tests-

- Vaginal pH-
- CBC
- RBS
- Pap smear-
- High vaginal Swab-
- KOH smear-
- Gram Stain-
- HPV DNA-
- Wet mount-
- CBNAAT (Optional):CT/NG-

  DIAGNOSIS-

INFORMED PATIENT CONSENT

Date: _____

I…….D/o, W/o, S/o……..…… am willing to participate in the study **"TO STUDY THE CLINICAL AND ETIOLOGICAL ASPECTS OF VULVOVAGINITIS"** The procedure with its complications has been explained to me in local vernacular language. I have fully understood that no special tests and extra expenditure in any form, merely for the purpose of thesis is being carried out. I am free to opt out the study any time without assigning any reason.

……. ……
Signature of the Witness Signature of the patient

Name:

Signature of Candidate **Signature of Supervisor**

मरीज अनुमति फार्म

तिथि _____

मैं _____ पत्नी/पुत्र/पुत्री _____
निवासी _____
इस शोधकार्य **"TO STUDY THE CLINICAL AND ETIOLOGICAL ASPECTS OF VULVOVAGINITIS"** में भाग लेने के लिए सहमत हूँ। मैं इस शोधकार्य में भाग लेने के लिए अपनी स्वेच्छा से तैयार हूँ। मैं पुष्टि करता/करती हूँ की यह स्वीकृति देने के लिए मुझे कोई आर्थिक प्रलोभन नहीं दिया गया और न ही दबाव डाला गया है। मुझे इस शोधकार्य का उद्देश्य स्पष्ट कर दिया गया है और मुझे यह विश्वास है की यह विज्ञान और मानवता के लाभ के लिए है। मुझे इस शोधकार्य में होने वाले जोखिम के बारे में समझा दिया गया है और मेरी समझ में यह जोखिम बहुत मामुली है।

मैं इस शोधकार्य में भाग लेने के सम्बन्ध में किसी भी समय अपनी अस्वीकृति व्यक्त कर सकता/सकती हूँ और मेरे अस्वीकृति व्यक्त करने का मेरे इलाज पर कोई प्रभाव नहीं पड़ेगा।

_____	_____
गवाह के हस्ताक्षर	रोगी के हस्ताक्षर/अंगूठे का निशान
नाम:	नाम:

_____
अन्वेषक के हस्ताक्षर

_____
विद्यार्थी के हस्ताक्षर

ਮਰੀਜ਼ ਰਜ਼ਾਮੰਦੀ ਫਾਰਮ

ਮਿਤੀ_____

ਮੈ_____ਪਤਨੀ/ਪੁੱਤਰ/ਪੁੱਤਰੀ_____

ਵਾਸੀ _____

“TO STUDY THE CLINICAL AND ETIOLOGICAL ASPECTS OF VULVOVAGINITIS” ਤੇ ਚਲ ਰਹੀ ਖੋਜ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਲਈ ਰਜ਼ਾਮੰਦ ਹਾਂ। ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਲਈ ਮੈ ਆਪਣੀ ਮਰਜ਼ੀ ਨਾਲ ਤਿਆਰ ਹਾਂ। ਮੈ ਇਹ ਦਸਣਾ ਚਾਹੁੰਦਾ ਹਾਂ/ ਚਾਹੁੰਦੀ ਹਾਂ ਕੇ ਇਹ ਰਜ਼ਾਮੰਦੀ ਦੇਣ ਵਾਸਤੇ ਮੈਨੂ ਕਿਸੇ ਵੀ ਤਰਾਂ ਦਾ ਲੋਭ-ਲਾਲਚ ਨਹੀ ਦਿੱਤਾ ਗਿਆ ਅਤੇ ਨਾ ਹੀ ਕੋਈ ਦਬਾ ਪਾਇਆ ਗਿਆ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਦਾ ਮਨੋਰਥ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ ਅਤੇ ਮੈਨੂ ਇਹ ਭਰੋਸਾ ਦਵਾਇਆ ਗਿਆ ਹੈ ਕੇ ਇਹ ਖੋਜ ਵਿਗਿਆਨ ਅਤੇ ਮਾਨਵਤਾ ਦੀ ਭਲਾਈ ਲਈ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਵਿਚ ਹੋਣ ਵਾਲੇ ਖਤਰੇ ਬਾਰੇ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ ਅਤੇ ਮੈਨੂ ਇਹ ਯਕੀਨ ਹੈ ਕੇ ਇਹ ਖਤਰਾ ਬਹੁਤ ਮਾਮੂਲੀ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਦਾ ਢੰਗ – ਤਰੀਕਾ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ।

ਮੈ ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਬਾਰੇ ਆਪਣੀ ਰਜ਼ਾਮੰਦੀ ਕਿਸੇ ਵੀ ਸਮੇ ਵਾਪਸ ਲੈ ਸਕਦਾ ਹਾਂ/ ਸਕਦੀ ਹਾਂ ਅਤੇ ਮੇਰੀ ਰਜ਼ਾਮੰਦੀ ਵਾਪਸ ਲੈਣ ਦਾ ਮੇਰੇ ਇਲਾਜ ਤੇ ਕੋਈ ਅਸਰ ਨਹੀ ਹੋਵੇਗਾ।

_____ _____

ਗਵਾਹ ਦੇ ਹਸਤਾਖਰ ਮਰੀਜ਼ ਦੇ ਹਸਤਾਖਰ

ਮਿਤੀ_____ ਮਿਤੀ_____

ਪਤਾ _____ ਪਤਾ _____

_____

ਨਿਰੀਖਕ ਦੇ ਹਸਤਾਖਰ

_____

ਸਿਖਿਆਰਥੀ ਦੇ ਹਸਤਾਖਰ